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The
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EDITORIAL

Crop Improvement

THE importance of applying modern plant breeding methods to cultivated plants can scarcely be over valued and the examples of the improvements which can result from selecting the best from existing varieties and of recombining desirable characters so as to concentrate more of them in a single variety are now almost beyond count. At the same time there are certain limitations to what can be achieved as well as certain inescapable consequences if growing specialized strains of plants to which it seems desirable to direct attention. What follows may appear rather iconoclastic to some but in view of the misconceived ideas common in Ceylon on the value of so-called " pure lines ", some classification is desirable. The common Ceylon use of the term " pure line " is unfortunate because it does not connote a strain good to grow. It merely indicates its hereditary character and breeding behaviour without keeping anything about its economic characters, good or bad. It could conceivably possess a number of bad characters and be capable of very low yields and still be a pure line. What is generally meant is a variety which is not only a pure line but also combines in itself a number of desirable characters including a capacity to yield well. Quite apart from the academic question as to whether a pure line of any size ever has or will exist in the absolute sense, the application of the term to bulk agricultural seed is unfortunate. A better term would be " selected variety ".

The selection of a variety to combine certain characters and to function well in a given environment inevitably leads to some curtailment of its adaptability and an increased degree of specialization. Plant breeding plots are always reasonably well cultivated and may be given special treatments to enable their population to express fully their various characters. The final selection therefore tends to fall on that variety best fitted to respond to the environment of the breeding plots. Its ability to give a good performance

on farmer's land has to be tested later and its ultimate popularity and spread will depend on the benefits it confers on the grower. If the farmer fails, however, to provide reasonably good growing conditions it is not to be expected that the selection can function to the best of its capacity.

In Ceylon the level of husbandry in paddy fields is often low. They are badly tilled, weedy, short of plant nutrients and neglected. The paddy is left to compete with many unfavourable conditions. To expect the sowing of a selected variety to compensate for neglect of good cultivation is expecting too much. To derive any benefit from a selection it must be given a chance to grow well. Owing to the greater specialization of selections they may perform even worse than the unselected village mixture under adverse conditions. The unselected variety, besides containing types of different genetic composition capable of different responses, has been selected by the repeated action of a certain environment and proved to be capable of tolerating the local conditions to some extent. To get the best out of a selection it is necessary to change the environment, that is, improve the cultural conditions, as well as sow this improved seed.

When the level of husbandry is low the possible response of a variety is necessarily limited. It has been repeatedly proved in Ceylon that improvements in cultivation and nutrition can greatly increase the yields of the unselected villagers' paddy, these increases frequently being of the order of 50 to 100 per cent.

It is not to be expected that a selection will give nearly such a large increase over the unselected even under good conditions and under the normal poor conditions of Ceylon paddy fields the increase may be negligible or it may even fare worse. When it is a devise of which improvement to apply first there can be no doubt that cultural methods must take precedence because they give greater returns and because they are an indispensable precursor to improved varieties. The cry for improved varieties in Ceylon, though well-meaning, is largely misconceived having regard to the general low standard of husbandry. Any benefit to be derived from growing " pure lines " without better field conditions is very unlikely to give an increased yield of more than 10 per cent. whereas better husbandry may often double this yield.

The extent of benefits likely to be derived from selected varieties is often exaggerated. Assuming that growing conditions are such as to permit any increased yield at all, it is unlikely that the increases from selections will exceed 20 per cent. and more generally they will be 10 to 15 per cent. While these may amount to a total gain over a large area which is considerable in a country's economy they make a small impression on the small tenant farmer working only two or three acres of land. But if a cultural or manurial practice doubles his yield he cannot but be impressed with the result and the extra which a selection combined with improved husbandry may add to his total harvest is correspondingly increased.

A consequence of adopting cultural methods and if sowing high-yielding varieties is the removal from the soil by the crop of a larger quantity of plant nutrients. The soil generally has a large reserve store of some nutrients

but not of others and depletion of the reserves can only introduce limiting factors which are reflected in decreased yields. If, from a field which has averaged 20 bushels per acre for a century or more a change is made which results in a 40 bushel crop, it is very unlikely that the balance of nutrients in the soil will remain unchanged and serious shortages of, at any rate, some plant requirements must ensue. Numerous trials in Ceylon suggest that the soils in many parts of the Island contain considerable reserves of mineral nutrients which we can draw on now but we do not know how long that can go on without replacing them by fertilizers. Further, we do not know if it will be enough merely to replace those so commonly thought of, nitrogen, phosphorous and potassium. It may well be that other minerals which enter into the compositions of the paddy plant may become limiting before any of the trinity generally considered.

It seems necessary to draw attention to this because it is unlikely that fields can continue to yield at double the previous rate without receiving mineral supplements. It is desirable that research proceed on this point to be ready with the remedy should declining responses to improved practices manifest themselves.

Top-working of Mango in the Dry Zone

BY

A. V. RICHARDS

HORTICULTURAL OFFICER

TOP-working is a horticultural practice which enables useless trees to be converted into useful ones without having to pull them out and replant. An unproductive seedling tree in a vigorous state of growth could be top-worked to a productive variety, or a budgrafted variety could be again worked over to another desirable variety.

In California and other citrus growing areas it is not uncommon for whole orchards of one citrus variety, such as the lemon for which the demand has fallen, to be top-worked to sweet orange or some other compatible variety which fetches high prices. The trees may be again top-worked to lemon when the demand for it becomes steady. Such repeatedly top-worked trees will have more than one variety as intermediate stem pieces between the stock and the ultimate scion. Old seedling trees producing fruits of small size which are costly to pick because of their relative inaccessibility are also top-worked by stump grafting (1).

Incidence of some new disease may also necessitate top-working the susceptible variety to a resistant one. Top-worked trees are generally more vigorous and come into bearing earlier than replanted ones because of their well established root systems (Figs. 1 and 2).

TOP-WORKING METHODS

One method of top-working is to pollard the tree, leaving one erect nurse branch to provide shade and carry on photosynthesis, and bud or cleft graft the selected new shoots which arise from the pollarded limbs (Fig. 3). But there are several practical difficulties associated with this method which has been tried out in the dry zone at Hingurakgoda on seven-year old unproductive Alphonso mango trees on local sour mango stock (*Walamba*). The new shoots take about five to six months to be ready for budgrafting, and the bark of the exposed limbs is liable to be killed by sun scorch and attacked by borers. Limewashing the branches and main trunk is beneficial, but does not altogether prevent sun scorch on badly exposed limbs. Moreover not many owners like to pollard their trees for fear of losing them through sun scorch and die-back.

The method which has given good results at Hingurakgoda is the one practised during the past two decades by a few growers in the West Coast of

Fig. 1.—One year old *Karuthacolomban* mango graft with top-worked mango trees in the background at Hingurakgoda.

Fig. 2.—A close-up of top-worked *Karuthacolomban* mango tree $1\frac{1}{2}$ years after top-working at Hingurakgoda.

Fig. 3.—Alphonso mango tree top-worked to *Karuthacolomban* by cleft grafting the new shoots from pollarded branches.

South India and described by Naik (2). It has also been used recently with success by the Divisional Agricultural Officer, Jaffna, and his Senior Assistant for top-working useless seedling sour mango trees in village gardens in the Jaffna Peninsula.

The mango trees which were top-worked by this method at Hingurakgoda consisted of eight year old grafts of Sabre, a South African variety, on local sour mango stock (*Walamba*). In all about 200 trees were successfully top-worked to *Karuthacolomban*, a Jaffna variety grown on the station.

No pollarding of branches is done at the start. A horizontal cut, about 5 inches in length depending on the girth of the selected branch, is made deep into the bark at a convenient height, and a triangular piece of the bark above this cut is scraped off to facilitate insertion of the scion piece (Figs. 4 and 5). If the bark is not too thick the triangular piece is removed intact and replaced after insertion of the scion. Two parallel cuts 8 to 10 inches long are then made vertically downwards from the lower edges of the triangular patch to enable the bark flap to be lifted slightly.

The scion, which consists of 8 to 9 inch long terminal shoot of the current season's flush, is first defoliated by removing the leaf blades about ten days in advance. It is trimmed with a sharp budding knife to produce a wedge-shaped end with one side shaved off to a greater length than the other to bring more of the cambial surface in contact with that of the stock.

The wedge is then inserted under the bark by gently lifting the flap at the base of the triangular patch with the bone handle of the budding knife, and pushing the scion piece firmly down to about $2\frac{1}{2}$ inches or more. After insertion the flap is kept firmly pressed over the scion by tying with several strands of coir string. The string should be quite tight over the region where the cambial tissues of the stock and scion piece are in contact. A paste made of fresh cow dung and soil is applied liberally over the cut surfaces. The exposed portion of the scion is protected from sun scorch by tying a mango leaf or two over it.

A horizontal notch is made about 6 inches above the triangular patch to stimulate the grown of the scion piece which generally takes about six weeks to produce a new flush. More than one scion piece can be inserted at suitable intervals on each selected branch. Once the scion pieces have grown out and are well established the branches are pollarded 6 inches above the upper horizontal notches, and the cut surfaces treated with a disinfectant like Brunolinum and covered with a piece of tar-impregnated jute hessian. The exposed limbs and main trunk are also limewashed and covered with straw or coconut fronds to prevent sun scorch.

After-care of the top-worked branches is important. All sucker growth from the stock should be removed and the new flush on the scion pieces should be protected from being blown off by strong winds. It may be necessary to provide suitable props for supporting the vigorous scion shoots. The protective covering round the trunk and pollarded branches should be examined frequently for termite attack which could be serious.

Top-worked mango trees could be expected to come into bearing within three years. This method of top-working appeals to owners because a desirable scion variety is successfully worked on the useless sour mango tree before it is pollarded. It has given the best results with young trees in healthy vigorous condition. A dry spell before or after the monsoon is the most favourable period for top-working since the percentage " take " is adversely affected by rain. The percentage " take " under favourable conditions is over 90.

SUMMARY

A method of top-working mango without initial pollarding of the branches is described. The scion pieces are inserted as side grafts into the bark of selected branches which are pollarded after the scion pieces have " taken " and produced new flushes.

ACKNOWLEDGMENTS

The writer is grateful for the facilities and assistance given by Mr. V. E. P. Gunaratne, Farm Manager, Hingurakgoda, and Mr. E. W. de Silva, Foreman, who supervised the top-working operations.

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Fig. 4.—Sabre mango tree top-worked to *Karuthacolomban* by side grafting the branches.

Fig. 5.—A close-up of the side graft showing the triangular patch to facilitate insertion of the scion, and the horizontal notch above it.

The Relative Merits of First and Second Bunch Coconuts for Seed Purposes

BY

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ACTING BOTANIST, COCONUT RESEARCH SCHEME (CEYLON)

THE usual practice in estates is to harvest coconuts once every two months. The palm produces one inflorescence every four weeks, so that at each harvest two bunches are picked, one bunch approximately a month more mature than the other. The older bunch is referred to as the first bunch and the other as the second bunch. Under normal picking, nuts from both bunches are ripe and suitable for copra and culinary purposes. Occasionally, three bunches may be picked from a single palm, then at the subsequent pick if two bunches are collected, the younger one may be unripe. Some palms show a marked periodicity in bearing, and at certain seasons no bunches can be picked at all.

There is considerable difference in opinion with regard to the use of first and second bunch nuts for seed purposes. Some maintain that the progeny derived from nuts of the second bunch are superior to those of the first bunch, and vice versa. An attempt is made in this paper to study the differences, if any, both in the young seedling and in the adult palm.

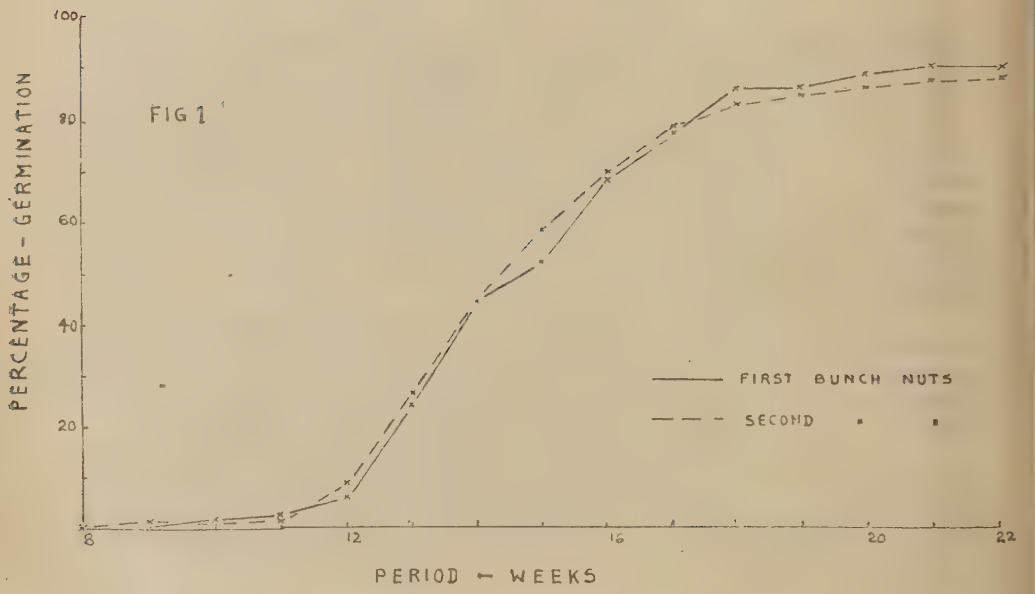
Literature on this aspect of germination of coconuts is rather scarce. Pandittasekera (1) has expressed the view that nuts of the second or less mature bunch are preferable to those of the first bunch. According to Espino (2) dead ripe nuts are superior to those at any other stage of ripeness —the exact converse.

PERFORMANCE OF SEEDLINGS

From a normal estate pick, 200 first bunch nuts and 200 second bunch nuts of uniform size and shape were collected and planted in the nursery. Each first bunch nut was planted alternatively with that of a second bunch. Planting was done in the usual manner in trenches six inches deep. Date of germination, number of leaves, number of emergent roots and the height of each seedling, were recorded. The last three factors were determined when the seedling was uprooted nine months after date of planting. The number of leaves excluded the " fish " leaf and leaves that were not fully developed were denoted by fractions—half developed, &c. Period taken for germination has been recorded from the date of planting nuts which was nearly five weeks after picking the nuts.

TABLE I.—First and Second Bunch Nuts

	No. of nuts planted	*Per cent. of germinations*	*Average period taken for germination*	*Average Number of leaves per seedling*	*Average Number of roots per seedling*
			Days		
First bunch ..	200 ..	91·0 ..	102·5 ..	4·0 ..	10·6
Second bunch ..	200 ..	88·5 ..	101·1 ..	3·9 ..	10·5



Graph showing the percentage rate of germination of first and second bunch nuts

The main characters of seedlings are summarized in Table I, and fig. 1.

The average period taken for germination per seedling varies only by one day (approximately) in the two classes, and this difference is not significant. Nearly 50 per cent. of the nuts of each class have germinated before the completion of 15 weeks and 85 per cent. by the 18th week. The largest number of germinations in each case were from the 13th to 15th weeks.

The co-efficients of variability were rather high with 15.2 per cent. for the first-bunch nuts and 15.3 per cent. for the second-bunch. Here again this difference too is negligible.

Variations in the periods taken for germination even in nuts of a single bunch are considerable. Frequently, these differences are spread over two to three months. This probably is due to some inherent qualities of the nut and not to any environmental conditions.

Thus as far as germination is concerned there are no differences between the first and second-bunch nuts. Although the embryos of the first-bunch nuts are approximately four weeks older than that of the second-bunch nuts, yet they awaken into activity more or less at the same time. The dormancy period is about three months. This dormancy is not due to the fact that after ripening of embryo is necessary when the nuts are picked.

Other characters like production of leaves and roots and height of seedlings are identical in both classes.

PERFORMANCE OF ADULT PALMS

Data of 147 first-bunch nut palms and 145 second-bunch nut palms which form the first generation palms in a progeny trial are now available. The palms have been planted at random in a five-acre block in November, 1934, and the manurial treatments right through have been identical. Two important characters of palms are the periods taken for bearing and the yielding capacity.

TABLE 2.—Frequency Table for period taken for initial flowering in 6 month classes

Mean of Class (Months)	*Frequency of 1st bunch-nut-palms*	*Frequency of 2nd bunch-nut-palms*
49–54	5	7
55–60	16	18
61–66	44	57
67–72	38	22
73–78	34	32
79–84	5	7
85–90	2	1
91–96	2	0
97–102	0	1

The class range is quite considerable extending from 4 to 8 years. The dispersion of varieties round the general mean is slightly more in the case of second-bunch nuts with a co-efficient of variation of 12.1 per cent. against 11.6 per cent. for the first-bunch nuts.

Nearly 71 per cent. of the palms in either groups have flowered before the completion of six years and only a negligible number, less than 3 per cent. remained to flower after seven years. The average periods taken for flowering of the first and second bunch-nut palms are 68.1 and 67.0 months respectively, from date of transplantation. This difference of 1.1 months is not statistically significant.

TABLE 3.—Yield of Nuts

	No. of palms	Year after transplantation							Total	Total less 6th and 7th years	Av./Palm/ year
		6th	7th	8th	9th	10th	11th	12th			
First bunch ..	147	41	1,089	5,616	7,623	7,671	6,012	6,440	34,492	33,362	45·4
Second bunch ..	145	150	1,351	5,704	7,257	7,739	5,823	6,350	34,374	32,873	45·3
Total ..	292	191	2,440	11,320	14,880	15,410	11,835	12,790	68,866	66,235	45·4

The comparative total yields of nuts of the two lots are presented in Table 3. During the first three years of bearing, the second bunch nut palms have yielded more nuts than the other lot, but as the palms have come into full bearing, these initial differences have evened out.

The average yield of copra was 18.1 lb. and 18.4 lb. per palm per year for the first and second bunch nut palms respectively. This difference of 0.3 lb. per palm is not significant. There were considerable variations within each group and these variations were more or less common to both groups, so that the yearly yields remained even (Table 4). Nearly 17 per cent. of the palms in each group have given more than 25 lb. of copra per palm per year.

TABLE 4—Frequency Table : Yield of Copra per palm per year

Class (wt. in lb.)	Frequency of 1st bunch-nut-palms	Frequency of 2nd bunch-nut-palms
1–10	24 ..	25
11–20	65 ..	56
21–30	50 ..	54
31–40	8 ..	10

This plantation is now nearly sixteen years old, and so far no marked differences in the growth of the palms are apparent. Seven palms show signs of tapering, four from the first-bunch nut palms and three from the other group. Heavy leaf drooping and immature nut fall occur with every drought in both groups in equal numbers. Therefore it cannot be said that the effect of environment on palms is more pronounced in any particular group than in the other in relatively young palms.

DISCUSSION

The suitability for seed purposes of first and second bunch nuts of normal estate picks is analysed. As far as the major characters of seedlings like period taken for germination and production of roots and leaves are concerned, differences between the two groups are negligible. Similarly in the adult palms, differences in the period taken for flowering and the yielding capacities are not statistically significant. Consequently, when coconuts are taken for seed purposes, both first and second bunch nuts are equally suitable as long as they are quite ripe.

ACKNOWLEDGMENTS

I am indebted to Mr. W. V. D. Peries, former Geneticist, Coconut Research Scheme, during whose tenure of office some experiments referred to above have been laid down, and Mr. F. C. Cooke, Director, Coconut Research Scheme, for encouragement given in the preparation of this paper.

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Bonfires, Trees and the Soil

Written in May, 1943, in Trincomalee.

THIS is written to draw attention to the fact that bonfires are just a bad habit and most destructive to the soil (i.e., world's food supply) and is addressed to those who have not thought about the matter or had little opportunity of observing the results.

Occupiers of the smallest piece of ground as well as employers of labour and those who live in house or camp site are all concerned. Burning any vegetable matter is just destroying the soil on which man depends for growing his food. Prohibit bonfires and preserve the trees and the soil and incidentally the shade and coolness so desirable in this climate. There would be no hardships if bonfires were made illegal.

Making fires of grass, jungle or any vegetable matter is a senseless practice—*bury* the stuff or at least allow it to revert to the soil whence it came and allow the next man to have a garden, even if you do not want to be troubled with one yourself or if the mania for heaping must be satisfied—spread it around the roots of trees or useful plants.

Fire may be justified in getting rid of thorn or prickly pear and in such undertakings as tea planting where some 4,000 plants per acre have to be accurately lined out and where the jungle is thick. Fire is the only practical method of clearing the ground. In a climate with eight dry months in the year and no really heavy jungle, it is hard to understand why the practice of heaping and burning is still tolerated, especially just now with so much inflammable material and buildings around.

Making bonfires is an amusing pastime and when a man gets paid for it, he naturally appreciates the job and argues in its favour. A very large number of trees die every year consequent on fires having been lit near them in a previous year or for a succession of years; thus many of the best houses are the hottest and most glary and only strong men can walk in their gardens in the daytime. Few people observe these casualties and if they do they put them down to " acts of God " whereas they are due to " acts of fools ".

Some people think that there is a great deal of jungle about, but that is not so; there is a world shortage of both timber and good soil (hence the wars).

Up to only a few years ago the jungle was treated as an enemy to be relentlessly destroyed and burned but now that world shortage of jungle (and the soil formed therefrom) is in sight—nations are setting about the protection of their forests and planting new ones. Fire protection is usually one of the biggest problems in these reafforesting schemes—in Ceylon the

biggest. Hereabouts is a very thin layer of soil and it cannot be increased if everyone turns the vegetation into dust and ashes, which is almost immediately blown into the sea (in the South-west) or washed in (in the North-east).

Does the jungle man pitch his tent in the sun—no—but the architect troubles not at all whilst the builder's men destroy and damage the existing trees on a site but, as soon the the house is up the architect comes running and asks for trees to be planted as he knows that the place will look better, though perhaps he does not realize that it actually also will be better to live in *and* cooler. The occupier also comes running and bemoans that there is no soil to start a garden.

There is a stupid remark sometimes heard which no doubt did not originate in the tropics " Clear everything away, let in the light and air ". If more air is let in over treeless ground it will of course be much hotter air and if you are fond of hot air and glare you will get it along with a higher temperature within the building. It is cooler to stand on grass than on a road, but cooler still to stand under trees.

Surrounds of habitations should therefore have high, clean-stemmed trees throwing shade over a large proportion of the house and garden especially in the front and on the west, this cuts out the glare but allows cooled air to flow around *under* the trees.

This is especially important with many modern buildings which have either no verandahs or very high ones and allow sun to fall on large masses of masonry and large areas of concrete floors.

At the beginning of the dry weather, outbreaks of tidiness are seen and quite rightly, BUT frequently the gangs go round and scrape the *grass*, &c., of the soil, making more dust, more glare and more heat for everyone; bonfires also are made and the unsightly marks show up throughout the dry weather—this is not tidiness, nor do cut grass and branches (which dry in a few days) lying spread upon the ground, mean lack of sanitation; on the contrary it keeps the ground cooler and does not create dust to the same extent that an exposed soil does.

As a rule loppings if not heaped soon disappear, especially near a town, the leaves and twigs revert to the soil and the next occupier will be able to grow some food.

T. B. W.

Cocoa Prospects

THE extension of the area under cocoa in Ceylon continues at an increased rate and there is widespread interest in the future of the crop.

World production of cocoa beans for 1949-50 (the cocoa crop-year corresponds, incidentally to the Ceylon financial year) is estimated at 936,000 metric tons or slightly above the pre-war average, but a little below that for 1948-49. Carry-overs were not more than about four per cent. of the 1948-49 crop. Compared to the very low 1947-48 crop, mainly due to very low yields that year in West Africa, the last two crops have been about up to pre-war, so that there does not appear to be any immediate danger of an acute shortage. Rather, it would appear that with average weather conditions in the chief producing countries, the next few years will not show a downward trend.

Cocoa is chiefly produced in countries where the internal consumption is low and furthermore the world's consumption has shown little signs of increasing, mainly because of restriction on imports, exchange difficulties over dollars and bulk-buying of the greater part of the African crop.

The pre-war years of depressed prices of agricultural products, including cocoa, led to considerable neglect of cocoa properties and there was little replacement of the losses from diseases. Yielding capacity consequently declined in areas where cocoa production was uneconomic while it was sustained in low wage regions such as West Africa where it could still be profitably grown. With the rise in cocoa prices after the war more attention has been paid to plantations. Old ones have been refurbished and patched up and considerable research is being done on the crop mainly directed towards increasing yields and uniformity of product. The effects of replanting and new planting will take some time to make themselves felt though so far new plantings have been on a very small scale. It is further not possible to forecast the effect of swollen shoot in West Africa. The disease has been known in the Gold Coast since 1937 and has undoubtedly done much damage even though this has not been fully reflected in a reduction in exports. Against any possible reduction of exports from West Africa should be set the expansion in Brazil where replacement of old trees with selected high-yielders has been going on for some time. Other Central American countries have also been paying more attention to cocoa and their production may increase. It is probable that their internal consumption will rise and may offset any production increase, so tending to keep the exports at a level figure.

In Asia there has been renewed interest in the crop but hitherto new plantings have been on a very limited scale, except in Ceylon. Western capital is cautious about further investments in a crop which can yield no return for five or six years.

In the immediate future there does not seem to be any large change likely in the exportable surplus, apart from seasonal variations. Probably new plantings and replantings will about serve to balance losses from disease and increased internal consumption.

Since the beginning of 1949 centralized marketing organizations in the chief producing countries have tended to control exports and exchange difficulties still stand in the way of a free world market for cocoa. The United Kingdom still makes bulk purchases of cocoa under war-time controls. There are two chief bodies regulating the cocoa export trade, the Bahia Cocoa Trade Commission which fixes minimum prices for Brazilian cocoa exports, and the Gold Coast and Nigerian Marketing Boards which are the sole sellers for cocoa in these countries. Under conditions favouring the seller these have functioned favourably for the producer. It is not known how such organizations would be effective when prices are falling.

The trend in cocoa consumption has been upward since the beginning of the century, with fluctuations due to wars and their aftermath. The general trend of rising standards of living will, if it continues, be accompanied by a further rising demand for cocoa products provided prices do not rise too steeply. Prices have, in fact, risen very sharply since 1938, partly because the future supplies were uncertain and because the restricted movements of cocoa shipments tends to make markets nervous. Carry-over stocks have generally been small and buyers, in fear of being caught without supplies, have raised prices. How long this can continue is uncertain, but it does seem probable that a fairly large expansion of the planted area will be required to meet future demands. It is desirable, however, that the new plantings should be of the best quality trees of high-yielding capicity, so as to keep production prices low in a world of rising labour costs.

Departmental Notes and News

Potash response by Paddy

A series of demonstration plots in part of the Western Province in *Maha* 1949-50, have indicated widespread responses to dressings of potash. These demonstrations covered the korales of Alutkuru North, Hapitigama, Siyane East, Alutkuru South and Siyane West. Fertilizer mixtures for this area should contain potash.

EASTERN PROVINCE PADDY DEMONSTRATIONS, MAHA 1949-50

2. The following summarizes the yield increases obtained by improved methods of cultivation on demonstration plots in the Eastern Province :—

Treatment	*Increase*	
	Bushels per acre	*Percent Increase over adjacent plots*
Transplanting alone	16·1	54·2
Transplanting plus fertilizers ..	22·0	53·9
Fertilizers alone	7·9	21·4
Harrowing the standing crop ..	9·4	34·1
Harrowing the standing crop plus fertilizers	17·0	62·1

The fields on which transplanting plus fertilizers were demonstrated were more fertile than those where transplanting alone was done. This accounts for the smaller percentage increase in the combined treatment though the farmers' gain was some six bushels greater.

The difference between harrowing alone and harrowing plus fertilizers was 7.6 bushels for the effect of the fertilizers. This may be compared to the 7.9 bushels increase shown for the response to fertilizers used alone.

The demonstrations were done by the D. A. O., E. D., (Mr. S. Kanagaratnam) and his staff.

PURE-LINE PADDY : A WARNING

3. " ..... the present tendency for securing increases in the supply of foodstuffs and other products by means of heavier-yielding, pure line strains in paddy, and by seed selections and budding, &c., in rubber, greater demands are made on the plant-food reserves in the soil. In proportion as increased yields are secured, the quantity of plant-food taken increases. This loss of plant-food from the soil will have to be made up by manuring. The more intensive cultivation and the more prolific the yields the more imperative is the need for an extended and judicious use of manuring. In Ceylon attempts are being made to increase paddy yields by growing pure-line high-yielding strains. These in the

writer's opinion, cannot produce persistent high yields year after year, unless they are supplemented by liberal manuring. Otherwise soil impoverishment is bound to follow sooner or later and yields must fall. The use of pure-line seed should certainly be encouraged, but in conjunction with systematic manuring''. (A. W. R. Joachim, Tropical Agriculture LXIX (1927) 137.)

The above was written 23 years ago but is even more true today, especially when yields are being pushed up still further by improved cultivation practices as well as by the use of selected seed.

RESULTS OF TRANSPLANTING IN SABARAGAMUWA

4. In *Maha* 1949-50 transplanting demonstrations gave average increased yields of 9.3 bushels per acre or 51.5 per cent. over the neighbouring plots. Three demonstrations on heavy, water-logged soil failed and it is doubtful if transplanting is suitable for such land. If these three failures are eliminated from the list the average increase was 11.7 bushels per acre, an increase of 61.0 per cent.

ESTIMATES OF ACREAGE AND YIELDS OF PADDY IN CEYLON

Season	*Year*	*Paddy—Extents Sown Yields*	*Rice*		*Production*
		Extents Sown (Acres)	*Yields Paddy*		*Rice available for consumption Metric Tons**
			Bushels	*Long Tons*	*Metric Tons*	
Maha	1943/44	680,919	9,119,013	182,380	185,275	107,088
Yala	1944	349,313	4,447,192	88,944	90,356	52,226
Total	1944	1,030,232	13,566,205	271,324	275,631	159,314
Maha	1944/45	633,563	7,900,411	158,008	160,516	92,778
Yala	1945	262,097	2,900,059	58,001	58,922	34,057
Total	1945	895,660	10,800,470	216,009	219,438	126,835
Maha	1945/46	610,070	7,847,668	156,953	159,444	92,159
Yala	1946	317,008	3,502,851	70,057	71,169	41,135
Total	1946	927,078	11,350,519	227,010	230,613	133,294
Maha	1946/47	616,507	8,013,348	160,267	162,811	94,105
Yala	1947	310,176	3,506,982	70,140	71,253	41,184
Total	1947	926,683	11,520,330	230,407	234,064	135,289
Maha	1947/48	—	—	—	—	—
Yala	1948	343,055	4,344,562	86,891	88,270	51,020
Total	1948	—	—	—	—	—
Maha	1948/49	635,987	9,007,580	180,152	183,012	105,781
Yala	1949	436,816	6,227,667	124,553	126,530	73,134
Total	1949	1,072,803	15,235,247	304,705	309,542	178,915
Maha	1949/50†	665,019	9,701,257	194,025	197,105	113,927
Yala	1950†	440,067	6,601,005	132,020	134,116	77,519
Total	1950††	1,105,086	16,302,262	326,045	331,221	191,446

* Total production of paddy (less 15 per cent. seed allowed) converted into rice. Extraction rate 68 per cent.
† Estimate.

List of the Principal Timber Trees in Ceylon

BY

A. MENDIS SENANAYAKE, ARATCHI

Reprinted from a pamphlet loaned by the Director, National Museums, Ceylon

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List of the Principal Timber Trees in Ceylon with information respecting their localities, qualities, uses, &c., by A. Mendis Senanayake, Mudaliyar and Master Carpenter, Royal Engineer's Department—improved and enlarged by his son, A. Mendis Senanayake, Aratchi of Moratuwa.

Nos.	Names	Locality Province	Size of bar broken 24 by 1 by 1 — Weight at which broke	Deflection before breaking	Absorbing power of a block 12 by 4 by 4 inches	Weight cubic feet	Average size of log — Length	Diameter	Uses, &c.	Common Names — English	Sinhalese	Tamil	No. in Lewis' Vegetables Production of Ceylon
1.	Alubo, Syzygium Sylvestre *Wight* (Eugenia Sylvestria)	W., C. and S.	—	—	—	49	20	—	Common house building. Axles for bullock bandies and ploughs	—	Alubo	—	257
2.	Aludel, Artocarpus Nobilis *Thw*	W. (common in low country up to 2,500′)	356	1	15	51	35–70	22½	Fishing boats and house building. The fruit (9″ by 3″) is boiled and eaten as food by the natives. Oil is obtained from the nut. quality No. 2 for railroad sleepers and telegraph posts	The wild bread-fruit tree	Del, badi del	Arsini Pelar	439
3.	Alutarana, Minnusop Elengi, *Thw*	W., E.	—	—	—	52–60	20	—	Common house building and construction of fishing boats	—	Munamal	Mukalai Makil, Vakundam, or Vitvapattiri	333A
4.	Ankenda, Osbeckia Asperia, *Bl.* (Acronychia Laurifolia)	W., C. (fairly common up to 6,000′ in the wet or damp forests)	—	—	—	—	20	—	For inlaying common furniture. The leaves and barks are used as an antidote for venomous serpent bites	—	Ankenda	—	119
5.	Andara, Acacia Farnesiana, *Wild.*	E. (dry country generally)	—	—	—	71	15	—	Cross bars of fishing dhonies, and pins for wooden anchors. It is generally too small for other work. (Used also for tool handles, tent pegs and slides)	—	Andara	Vidatta	227
6.	Aramana, Cassia Timoriensis, *D. C.* (Cassia Siamea)	W., C.	297	1½	13	57	50	15	Furniture and house building (Makes very handsome tops to small tables, and panels for cabinets. A splendid fuel)	—	Wa-Aramana	Vakai	215
7.	Aridda, Ardisia divergens (Campnosperma Zeylanicum)	W. (also S., C. and Sab. wet zone)	—	—	—	—	10–20	—	Common house ceilings, tea chests, packing cases, and plumbago casks	—	Aridda	—	185
8.	Bata Domba, Syzygium Nirvosum *D.C.* (Eugenia Operenlata)	W. (wet districts up to 4,000′)	—	—	—	45	20	—	Common house building, &c. Poles of bullock carts	—	Bata-damba	—	260
9.	Bakmi, Nanclea Coadunata, *Roxb* (Sarcouphalus Cordatus)	W. (low country up to 1,200′	—	—	—	—	8	—	Packing cases, ceilings, &c. Its fruits are eaten, it is a medicinal tree. By name in Sanskrit Bimbi Drums	—	Bakmi	Vammi	299
10.	Beriya, Lumnitzeracemosa, *Willd.*	N. and W. (west and south coast)	—	—	—	57	10–30	—	Found chiefly near the banks of rivers, used for anchors and building purposes	—	Beriya	—	251
11.	Beligobol, Paritium Tiliaccum *Ad Juss* Hibiscus Tiliaccus)	W.	—	—	—	38	20	—	Found near the banks of rivers and used for carriages, palanquins and hackeries. It is a very light timber	—	Beli-patta	—	91
12.	Bombu, Symplocoa Spicata *Roxb.*	W. and C. (wet districts)	—	—	—	—	15	—	Common house building and other works. (Lewis says the real Bombu is seldom used for building purposes)	—	Bombu	Bombi	351
13.	Bokela, Sandoricum (Gomphia Angustifolia)	W. (wet districts up to 1,500′)	—	—	—	—	15–30	—	Common house building	—	Bo-kera	—	136
14.	Buruta, Chloroxylon Swietenia Satin *D.C.*	S. and E. (Dry zone common)	521	1	14	55	10–80	19	Oil presses and wagon wheels, bullock carts, bridges, cog-wheels, buildings and furniture. One of the first-class timber of the Island. Quality No. 1 for railroad leepers,r telegraph posts and sundeground purposes	Satinwood	Buruta	Mutiral	146

15.	Caju, Occidentale buidentha Cashewnut *L.*	Anacardium	N., W. and C.	..	—	..	—	..	—	..	—	—	..	—	..	—	..	Packing cases—from the bark a dye is extracted for tanning leather and floor washing. Its fruit and the kernel of the nut are eaten. Oil is obtained from the nut which is used for hoof diseases of cattle (Tree rarely attains a size sufficient for planking of any suitable width)	Cashewnut tree	..	Kaju		—	..	130
16.	Dambu, Corinti (Eugenia Gardneri)	Polyathia	C. (wet zone)	..	—	..	—	..	—	..	41	30–70	..	—	..	—	..	Bridges, rafters, reepers, wall plates and other building purposes. It is most durable for works under water	—	..	Damba Dambu	or	Nirnaval	..	256
17.	Daminna, Tiliæfolia, *Vahl*	Grewia	E. (low country below 1,500′	—	..	—	..	—	..	44	40	..	—	..	—	..	Gun stocks and common house building	—	..	Daminiya	..	Chadachchi	..	107
18.	Danga, Rhudii (Dolichandrone Rhudii)	Spathodea	N. and W. (in *Wall* mangrove swamps)	—	..	—	..	—	..	—	23	..	—	..	—	..	Buoys for fishing nets, models for dhonies, &c. (Rarely used except in temporary shed construction)	—	..	Diya-danga	..	Vilpadri	..	378
19.	Dawata, Carallia Integerrima *D. C.*		W. (S)	..	—	..	—	..	—	..	42	25	..	—	..	—	..	A large and a very tall tree, used for roofing of common buildings and in turnery. (Makes beautiful panels, especially if french polished)	—	..	Dawata	..	Karalli	..	243
20.	Dawalkurundu, Litseaca Leylonica, *Nees* (Lit Sea Zeylonica)		W., C. (western half of Island)	—	.	—	..	—	..	39	20	..	—	..	—	..	Common house building. (Excellent for panels, dadoss ceilings, sash bars and cabinet work as it is easily worked—according to Lewis)	Wild Cinnamon		Kurundu Dawula Dawul-kurundu		—	..	413
21.	Del, Artocarpus Nobilis *Thw* (Wild Breadfruit)		E., S., W. (Common in low country up to 2,500′)	264	..	¾	..	17	..	40	25–50	..	22½	..	16	..	Boats and buildings. The fruit (9″ by 3″) is used as an article of food. The seeds roasted are a favourite luxury among the natives. Quality No. 2 for railroad sleepers, telegraph posts, and underground purposes	Wild Breadfruit tree		Del—Bedi-Del	..	Asini pelar	..	439
22.	Diyana *Lin.*	Mesna Ferica	W., E.	..	—	..	—	..	—	..	—	10–57	..	—	..	—	..	Common bridges, buildings, &c. ..	—	..	Diya-na	..	—	..	37
23.	Diya-mi *Lin*	Longifolia,	W.	..	—	..	—	..	—	..	—	20–40	..	—	..	—	..	Bridges and houses, buildings. The juice of the tender leaves is a specific for burnt eyes	—	..	—	..	—	..	—
24.	Diyapara, Triquetra, *Roxb.*	Wormia	W. (wet zone up to 5,000′)	—	..	—	..	—	..	44	22–30	..	—	..	—	..	Common house building. Oil is obtained from the nut. (Lewis says makes very handsome panels)	—	..	Diyapara	..	—	..	2
25.	Diyarata, bala, Saraca Indica *Lin.* (Jonesia Asoca) *Roxb.*		N. (occurs by streams in the intermediate zone)	—	..	—	..	—	..	58	25	..	—	..	—	..	Common house building. The flower is a medicine for sore eyes and eye bruises. It has an efficacy for purifying blood	The Asoka tree		Diya-ratmal, Diya-ratambala, ankaranda		Asogam	..	219
26.	Domba, Calophyllum Inophylhum *Lin.*		W. (common especially near the sea. Occurs on both sides of the Island	—	..		..	—	..	40	5–10	..	—	..	—	..	Masts and cross sticks of yattra dhoni, fishing boats and poles of bullock carts. An oil is obtained from the nut of this tree which is used for lights and is also used as a medicine	—	..	Domba—Tel domba	..	Punnai Domba-kottai	..	27
27.	Dorana, pus Glandulomi, *Lin.*	Dipterocar-	N., W. (Sab.)	..	—	..	—	..	—	..	45	8	..	—	..	—	..	For common ceilings, &c. A balsamic called "Dorana tel" is obtained from this tree which is used for paining purposes	—	..	Dorana	..	—	..	44
28.	Doon, Doona Zeylanica *Thw.* Shingle tree)		C., W. (Sab.)	..	—	..	—	..	—	..	—	29–50	..	—	..	—	..	House building. Dammer is obtained from this tree. It is a large and useful timber. (A very reliable timber for house building, joists, flooring boards, and shingles. The resin from this tree makes an excellent varnish	—	..	Kirilla	..	Kiunal	..	276

Nos.	Names	Locality Province	Size of bar broken 24 by 1 by 1 — Weight at which broke	Size of bar broken 24 by 1 by 1 — Deflection before breaking	Absorbing power of a block 12 by 4 by 4 inches	Weight cubic feet durability	Average size of log — Length	Average size of log — Diameter	Uses, &c.	Common Names — English	Common Names — Sinhalese	Common Names — Tamil	No. in Lewis' Vegetable Production of Ceylon
29.	Ehela (Cassia Fistula)	W., C. (abundant in dry zone)	—	—	—	60	—	—	Common furniture, writing desks, &c. It is a medicinal tree at large (makes most excellent and durable posts and rafters)	Indian Laburnum	Ehela	Tirukonalvani	Ka- 209
30.	Etdemata, Gruelina Rhudii	W., C., &c. (moderately common up to 4,000′)	—	—	—	30-32	15	—	Planking of floor and used also for furniture. It is a medicinal tree. Its flowers are very beautiful and fragrant. (Suitable or small panels, sashbars and fretwork)	—	Et-damata	Gumudutkku	387
31.	Etaheraliya, Ardisia Undulata (Kurrimia Zeylanica) *Thw.*	W. (also Sab., W and E.)	—	—	—	—	—	—	Tea chests, packing cases, backs of almyrahs	—	Pelan' Et-heraliya Umhonda	Konnai	155
32.	Etteriya, Murraya Paniculata (Murraya Exotica) *Thw.*	W., E. (occurs up to 3,000′)	—	—	—	61 10-70	..	—	Handles of mamoties, hammers, bill hooks and rafters for cadjan roofs. Its flowers are white and very beautiful and give a pleasant odour (Might be suitable for scales, foot-rules and the like)	—	Etteriya	Konji	122
33.	Gedda, Kilala, Ceylon Cork tree, Souneratia acida *Lin.*	W. (fairly common round our S. and W.,	—	—	—	—	—	—	Grows in the moist of swampy lands near river banks. Spongy outgrowths from the roots are used as corks for bottles and for lining insect cases	—	Kirilla	Klunai	276
34.	Galmendora, Vateria (Cynometra Ramiflora) *Lin.*	W. and S. (ra-370 rather rare, occurs near streams in dry zone)	..	1¼	14	57 15-60	..	22½	13 Bridges and buildings. The best kind of wood for underground-purposes, Quality No. 2 or railroad sleepers and telegraph posts. (Said to produce a purple dye)	—	Gal-mendera Opulu	Attukandupuli	217
35.	Galmora, Cryptocarya Floribunda (Ceyptocarpus Wightiana) *Comb.*	W., C. (up to 3,000′ in moist forests)	—	—	—	—	65-30.	—	House building. Berries are eaten	—	Gal-mora or Golu-mora	—	405
36.	Galmedia, Compera	W.	—	—	—	—	20	—	Common house building. Its leaves are vastly used for polishing wood-furniture	—	—	—	—
37.	Galsiyambala, Dalium Ovoideum	W., C. (Uva, E.) .395	—	—	—	82	80	—	Oil presses, cog-wheels, furniture and buildings. The fruit is of an agreeable acid flavour. It is a medicinal tree	Velvet Tamarind	Gal-siyambala	Kaddupulli	218
38.	Galis, Gardenia Latifolia	W. (Uva, E.)	—	—	—	—	25	—	Common house building, walking sticks and principally for in laying ornamental cabinet works. Its flowers are very fragrant and beautiful. (Only used for making light furniture such as camp-beds. Beds made from this wood never harbour bugs)	—	Galis	Lakkadai	311
39.	Godapara, Dillenia Retusa *Thumb.*	W. (up to 1,500′)	—	—	—	45-48	51-60.	—	Roofs for houses and other works	—	Godapara	—	4
40.	Gonna, Fiscuf Oinerascens, Small Jak tree (Fiscus Callosa)	W. (wet zone up to 2,000′)	—	—	—	—	36	—	A useful fruit and timber tree. Dr. Boyle' thinks "it may be found to yield fibres." "In India its roots are used in yellow dying". The whole tree and unripe fruits contain such tenacious silky juice (at one time freely used for tea boxes)	—	Gonna Walgonna	—	435

41. Gonnapana, Alstonia (Psendocarapa Championi)	W., C.	..	—	..	—	..	—	—	40	..	—	..	—	..	Rafters, reepers, wall plates and common house posts	—	..	Gonapana	..	—	..	141
42. Gurukuna, Calophyllum Burmani, Calaba *Wight.*	W., S. (both wet and dry zone up to 1,000′)	—	..	—	..	—	..	44	25	..	—	..	—	..	Poles for bullock carts and house building. (Well suited for axe handles or for small cabinet work)	—	..	Gurukuna, Hinkina	..	Chirapunnai	..	25
43. Hal, Vatina Indica *Lin.*	W. (S., C., Sab. up to 2,000′)	—	..	—	..	—	..	26	10	..	—	..	—	..	First class timber for tea chests, packing cases, ceilings, coffins, &c. The tree yields dammer and the fruit is used as food. (Most suitable for tea boxes. Too porous and soft for building work)	—	..	Hal	..	—	..	68
44. Hal-Mendora, Vatina (Vatina Affinis) *Lin.*	W.	..	—	..	—	..	—	56	9–20	..	—	..	—	..	Bridges and house building. Lasts longer for underground work	—	..	Halmendora	..	—	..	65
45. Halmitela, Berrya Ammonilla, Trincomalee wood *Roxb.*	N. and E. (Sab. C.)	422 ..	2½	6	..	48	10–8	..	20½	..	14½	..	Casks, tubs, carts, wagons and house building, the best wood for oil and arrack casks in the Island. Quality No. 2 for telegraph posts (flexible and tough)	Trincomalee wood		Halmilla	..	Chavandalai	..	106
46. Hedawaka, Chaetocarpus pungens *Roxb.* (Chætocarpus Castanocarpus)	W. (Sab. wet zone up to 2,500′)	—	..	—	..	—	..	58	50	..	—	..	—	..	Common house building. (Timber hard, dense and very durable. Much improved by water seasoning). Excellent for buildings, beams and joints	—	..	Hedawaka, Hedoka		—	..	427
47. Helamba, Naucha Parrifolia (Stephegyne Parrifolia)	N. and N. (E) (common in dry zone)	—	..	—	..	—	..	42	40	..	—	..	—	..	Common house building ..	—	..	Halamba	..	Salappai, Chelampai Nir-Kadampa		302
48. Hempelanda, Creca Alba (Terrinalia Parrifolia)	W. (wet zone up to 4,000′)	—	..	—	..	—	..	43	13–30	..	—	..	—	..	Common house building. Agricultural implements (should not be exposed to damp)	—	..	Hampalanda	..	—	..	248
49. Hik, Odina Wodier	W. and C. (up to 1,000′)	..	—	..	—	..	—	38	30	..	—	..	—	..	Common house building, furniture and fishing kraal sticks. This tree yields a gum which is used for medicinal purposes. (Suitable for wheel spokes, window frames and cabinet work)	—	..	Hik	..	Odi	..	179
50. Homediriya, Diospyros Candolliana *Wight* (Diospyros Gardeneri)	W. and S.	..	—	..	—	..	—	55	80	..	—	..	—	..	Although it is not so scarce, beautiful and durable as Kalumediriya. It is a good timber for cabinet work	—	..	Kalumberiya Hompenella,, Kalu or Homediriya		—	..	341
51. Hondapara, Dellenna Indica *L.*	W. (near water up to 2,000′)	—	..	—	..	—	..	41	15	..	—	..	—	..	Boats and gun stocks. It grows in warm localities. (Suitable for window frames but rarely procurable in long pieces)	—	..	Hondapara, Wampara	..	—	..	3
52. Hora, Dipterocarpus Zeylanicus *Thw.*	W. (S., Uva, N., W., Sab.)	—	..	—	..	—	..	45	15	..	—	..	—	..	Roofs of common buildings. The tree when decaying produces dammer. (The wood can be easily bent with heat, hence its popularity in boat building and cask making. Difficult to season as the wood is full of wood oil)	—	..	Hora	..	—	..	42
53. Hulanhik, Chickrassia Tabulani *Ad Juse.*	C. (Uva)	..	—	..	—	..	—	39	50	..	—	..	—	..	House building. When variegated some of these trees give handsome wood for making furniture. (Suitable for ornamental work, panels, tops of tables, cabinet work, &c.,	Chittagong wood		Hulan-hik	..	Agalai Kalote	..	145
54. Hunnkirilla, Colchiclion Coriacum	W., S.	..	—	..	—	..	—	44	25	..	—	..	—	..	Common house building ..	—	..	—	..	—	..	—
55. Kadol, Leafy dian-grove *Lin* Rhizophoro (Rhizophora Mucronata)	N., W. (all round the coast)	—	..	—	..	—	..	65	40	..	—	..	—	..	Found chiefly near the banks of rivers. The wood is used for common house building, and from the bark a dye is extracted for colouring leather, nets, &c. (Excellent fuel)	Mangrove	..	Kadol	..	Kandal	..	240

No.	Names	Locality Province	Size of bar broken 24 by 1 by 1		Absorbing power of a block 12 by 4 by 4 inches	Weight cubic feet durability	Average size of log		Uses, &c.	Common Names			No. in Lewis' Vegetable Production of Ceylon
			Weight at which broke	Deflection before breaking			Length	Diameter		English	Sinhalese	Tamil	
56.	Kadumberiya, Diospyrus Garderi *Thw.* (Bastard Ebony) (Diosphyros Ovecarpa)	W. (dry country scarce)	— ..	— ..	— ..	45 40	.. —	.. —	Furniture. This wood is occasionally of an extraordinary colour	Bastard Ebony	Kalu-Kadumberiya, Ela-Timbiri	Vellai Karumkale	342
57.	Kabella, Aperossa Lindhyana *Thw.*	N., W.	..	— ..	— ..	— ..	40 20	.. —	.. —	Common house building. Its tender leaves are used for eye sickness. Ripe leaves produce a good manure for betel cultivation	—	Kampotta, Pepeliya Mapat-Kebella	—	442
58.	Kahata, Caraya Arborea *Roxb.*	W., S. (common up to 5,000′)	— ..	— ..	— ..	38 10–20 (about 50)	.. —	.. —	Buildings and arches of bullock bandies and posts of houses. The bark is very astringent and is used medicinally and for tanning. Quality No. 2 for railroad sleepers	Patana Oak	Kahata	Kasadai or Kachadai	265
59.	Kaha Milila, Viter Altissima *Lin.* Same as 94 and 124.	S., W. (common up to 3,000′)	385 .. 1 ..	8 ..		56 15–80	.. 16 ..	18¼ ..	Water casks, padda boats waggon wheels, bullock carts, bridges and house buildings. Quality No. 1 for rail road sleepers and telegraph posts. (Durable, hard; resists white ants)	—	Milla, Muja milla Kaha milla, Sapu milla	Kadumanakku	390
60.	Kaluwara, Diospyros Chennu (Ebony) *Ritz.*	N., E. (up to 4,000′)	360 .. 1¾ ..	11 ..		71 80	.. 12¼ ..	13	A fine black wood used for making furniture. One of the first-class timbers. Quality No. 2 for railroad sleepers and telegraph posts	Ebony	Kaluwara	Karumkali	339
61.	Kalukola, Butia Frondosa *Roxb.*	C. (dry zone tree)	— ..	— ..	— ..	38 30	.. —	.. —	Common house building. When variegated it is a beautiful wood and is used for furniture and cabinet work	—	Gas-kela	Parasu (Parasing in N.-C. P.)	201
62.	Kalumederiya, Diospyros Quosita Calamandar *Thw.*	S., W.,	.. —	.. —	.. —	57 80	.. —	.. —	A scarce and very beautiful wood most valuable for ornamental purposes, first among timber classes	Calamander	Kalumediriya	—	343
63.	Kanda, Macaranga Zomentosa *Wight.*	W., N., C.	.. —	.. —	.. —	— 15–20	.. —	.. —	Wall sticks for common house building. This tree exudes a light crimson-coloured gum which is used as medicine	—	Konda	—	—
64.	Kalamaduwa (Ficus Nervosa)	W.	.. —	.. —	.. —	— 10	.. —	.. —	Tea chests, packing cases, &c.	—	Kalamaduwa	—	—
65.	Katapata	W.	.. —	.. —	.. —	32–38 8	.. —	.. —	Coffee and plumbago casks, packing cases and shelves	—	Katapata	—	—
66.	Katukurundu, Thorny Cinnamon	W., C.	.. —	.. —	.. —	60 15–20	.. —	.. —	Handles of mamoties and bill hooks and for side sticks supporting the roofs of double bullock carts. (Suitable for posts, wall plates and rafters. Used for arms to outriggers)	—	Katu-Kurundu	—	14
67.	Katu imbul, Bombaxeriba *Rozb* (Bombax Malbaricum.	E. (widely distributed)	— ..	— ..	— ..	— 8	.. —	.. —	Tea chests, packing cases, coffins. (At one time in great demand for tea boxes but owing to its proneness to borers it soon fell into evil repute)	Silk cotton tree	Imbul, Katu imbul	Kadu-parutti or Illava	93
68.	Katukanda, Macaranga tomentosa *Thw.*	W.	.. —	.. —	.. —	— 15–21	.. —	.. —	Wall sticks for common house building, &c.	—	Katukanda	—	134

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Nos.	Names	Locality Province	Size of Bar broken 24 by 1 by 1 — Weight at which broke	Size of Bar broken 24 by 1 by 1 — Deflection before breaking	Absorbing power of a block 12 by 4 by 4 inches	Weight cubic feet durability	Average size of log — Length	Average size of log — Diameter	Uses, &c.	Common Names — English	Common Names — Sinhalese	Common Names — Tamil	No. in Lewis' Vegetable Production of Ceylon
80.	Kumbuk, Tommicilia Glabra W and C	W., C., N. (common up to 2,000′)	.. — ..	— ..	— ..	62 25–40	.. —	.. —	.. Flourishing throughout the Island especially on the banks of rivers. The wood is used in making wheels for bases of wells, supplies a kind of firewood for lime kilns and is suitable for railway sleepers. It has a peculiar efficacy in clearing water. (Very suitable for house building and makes handsome furniture: seasoning is difficult)	—	.. Kumbuk	.. Marutu	.. 249
81.	Kurundu, Cinnamon Zeylanicum Cinnamon) *Brey*	W. (C)	.. — ..	— ..	— ..	— —	.. —	.. —	.. Lofty trees are very rare, small casks are made from the wood for seasoning arrack, which imparts a fine colour, good flavour and stronger than the ordinary kind: the bark produces an aromatic oil called "Kurundu Tel"—the root yields camphor. (May be used for fuel or fence sticks)	Cinnamon	.. Kurundu	.. Karuva	.. 406
82.	Lawatu, Chryophyllum Roxbirihii *G. Don*	W.	.. — ..	— ..	— ..	39 10	.. —	.. —	.. Common house building—its fruit is eaten. (Suitable for shingles)	—	.. Lawalu	.. Kat-Illupai	.. 238
83.	Liyan, Conocarpus Datifolia *Roxb.* (Homalium Zeylanicum)	W. C., (wet zone up to 4,000′)	— ..	— ..	— ..	48 36	.. —	.. —	.. A large well-known tree, especially in coffee districts, the timber is used for bungalows, store houses and other building purposes. Suitable for railway sleepers (sometimes used for shingles, very suitable for rods or curtain poles)	—	.. Liyan	.. —	.. 280
84.	Loloo, Cordia Myxa *L.* (Mucharo)	C. (common in dry zone)	— ..	— ..	— ..	23–32 15	.. —	.. —	.. Agricultural implements and fishing boats, the fruit is relished as a vegetable and pickled, the bark is made into ropes and fuses. (Liable to insect attack: used in house building for posts)	Sebestene	.. Lolu	.. Naruvilli Vidi	.. 371
85.	Lunumidella, Mela Composita *Wild* (Common Bread tree) (Melia Dubia)	W., C. (common up to 1,500′)	— ..	— ..	— ..	15 8–20	.. —	.. —	.. The branches are used in common building and as outriggers for dhonies and fishing boats and the timber for panels of carriages, buoys, targets, &c. (Timber very suitable for ceiling boards and dadoes but it is not hard enough for structural work. In much demand for tea boxes, for which it is very suitable but the supply is insufficient)	—	.. Lunumidella Wal-Kohomba	Malaivempu	.. 137
86.	Madatiya, Admanthra pavoninae *Lin.*	W.	.. — ..	— ..	— ..	56 30	.. —	.. —	.. Common house building, produces a red seed which is roasted and eaten: its leaves, &c., are used in medicine. (Excellent fuel)	Seed Tree	.. Madittiya hardi	Mane-Arnai-Kundumoni	225
87.	Madol, Caceinia Echinocarpus *Thw.*	W., C. (hill country above 2,000′)	— ..	— ..	— ..	50 15	.. —	.. —	.. A handsome forest tree from 50 to 80 feet high. It is generally used for common house building. (Is used for shingles but is not very durable)	—	.. Madol	.. —	.. 21

88.	Mahadan, Syzygium Jambolanum *D. C.* (Eugenia Jambolana)	N., W. (dry zone)	—	..	—	..	—	..	36	20	..	—	..	—	..	Common house building, is eaten when fully ripe	Black Plum	..	Ma-dan, Maha-dan	Naval, Naval	Perun-	261
89.	Maldoda, Myristica Laurifolia *H and T* (Wild Nutmeg)	W. (west zone forests up to 6,000′)	—	..	—	..	—	..	24	8	..	—	..	—	..	Coffee and plumbago casks, coffins and packing cases. (Suitable for light boxes such as cigar boxes, small tea chests or packing cases for light materials: wood however rots quickly and is much subject to insect attacks)	—	..	Malboda Eiri-mawara	in Sab.	Palmani-Kam	402
90.	Malburuta, Chloroxylon Swietenia *D. C.* (Flowered Satin)	N., E.	252	..	—	..	—	..	57	80	..	19	..	20½	..	House building purposes and furniture; the wood is perhaps the valuable next to Calamander: used for cabinet works, one of the first class timbers in Ceylon	Flowered Satin-wood		Mal-buruta	..	—	..	146
91.	Mara, Adenantjora Parionia	W.	—	..	—	..	—	..	10	25	..	—	..	—	..	Fishing boats, drum-tubs, and backs of almyrahs, &c.	—	..	Mara	..	—	..	—
92.	Meera, Isonandra Prandin *Thw.*	C.	—	..	—	..	—	..	20	45	..	—	..	—	..	Shingles for roofs and other works for bungalows, store-houses, &c., in coffee estates: the timber is easily split. Oil is extracted from the seed as lamp oil and for cooking	—	..	Meeriya	..	—	..	—
93.	Mee, Bassia Longifolia *Lin.*	W. and N. (common in dry zone up to 2,000′)	362	..	1	..	15	..	61	25–80	..	25	..	16	..	House building, bridges and keels for dhonies. A useful medicinal oil called "Meetel" is obtained from the nut. Quality No. 2 for railroad sleepers and telegraph posts and No. 1 for underground purposes. (Timber resists moisture: often used for oil presses)	—	..	Mee	..	Illuppai	..	330
94.	Mian-Milila, Vitex Altessima *Lin. F* (same as 59 and 124)	W. (common up up to 3,000′)	394	..	1	..	8	..	56	20–90	..	16	..	18½	..	Bridges, padda boats, carts, wagons, wheels, water tubs, and house building. Quality No. 1 for railroad sleepers, telegraph posts and underground purposes. (Durable, hard, resists white ants)	—	..	Milla, Migam Milla, Kaha-Milla, Sapu-Milla		Kadumanakku	..	390
95.	Mora, Nephelium Longanum (Eyeball tree) *Camb.*	W. and C.	—	..	—	..	—	..	62	25	..	—	..	—	..	Common house building. Berries are eaten. Furnishes the best firewood for lime and brick kilns, next to Gal-Mora (said to make good furniture)	Logan	..	Mora	..	Mural	..	170
96.	Mole bedda, Semecarpus Marginata *Thw.*	W.	380	..	½	..	—	..	30—60		..	—	..	—	..	Rafters, reepers, wall plates, window bars, &c. Most durable for underwater purposes, excellent for pestles	—	..	Molpedda	..	—	..	329
97.	Munamal, Mimusops Elengi *Lin.*	W. S. (Also E. common in dry zone)	—	..	—	..	—	..	61	50	..	—	..	—	..	House building and furniture (polishes well and durable)	—	..	Munamal	..	Mukalai, Vakudam Vil-vapattiri	Makil,	333A
98.	Muruta, Lagerstroemina Reginae *Roxb.*	W., S. (common near streams in wet zone up to 2,000′)	—	..	—	..	—	..	42–30–40		..	—	..	—	..	Water and arrack casks and buildings. Used for underground work as No. 1. (Hard, durable, well suited for beams, joists, posts, &c. It is largely used in construction and shipbuilding)	Pride of India	..	Muruta	..	Pumarathu	..	275
99.	Na, Ironwood, Mesua Ferrea *Lin.*	W. (wide distribution up to 4,000′)	497	..	1	..	7	..	72	10–60	..	22½	..	14½	..	Bridges and buildings, &c. Oil is obtained from the nut, the leaves and flowers are used as an antidote for snake poison. (One of Ceylon's best timbers. Should be water seasoned, used as shingles and coated with tar makes a very fine lasting roof)	—	..	—	..	—	..	—

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100.	Na-imbul, Eriodendron Anproctusam *D. C.*	W.	.. —	.. —	.. —	.. —	15	.. —	.. — .. For common house building. It is said that this timber lasts for a considerable length of time in chimney pieces	Ironwood	.. Na	.. Nariga or naka	.. 36
101.	Nebada, Evodiatriphyll *D. C.* (Vetex lencoxylon)	S., W. (common in dry zone near streams)	— ..	— ..	— ..	51 20	.. —	.. —	.. Common house building (suitable for cart frames and unexposed work)	—	.. Nebedde	.. Kaddu-Nochchi, Nir-Nochchi or Ninatchi-maram	391
102.	Nedun, Pericopsis Norniana *Thw.*	W. and S.	..437 ..	1 ..	12 ..	56 60–80	.. 15 ..	16 ..	Buildings and furniture. A first class wood. Takes a very fine polish, cuts clean and turns easily, very durable)	—	.. Nedun	.. —	.. 296
103.	Nelli, Phyllanthus Emblica *Lin.*	W. C. (patana lands below 4,000′)	— ..	— ..	— ..	49 20	.. —	.. —	.. Used in making wheels for bases of wells. It has a good efficacy in clearing water, the berries are used for sweetmeats, also for medicinal purposes. (Timber rarely used as it cannot be got in large pieces or even sizes)	Emblic balam Myro-	Nelli	.. Toppu-Nelli	.. 418
104.	Neralu, Elocodindron Glanum *Perk*	C. (dry zone)	.. —	.. —	.. —	.. 56 40	.. —	.. —	.. Common house building. (Suitable for cabinet work)	—	.. Neralu	Payari, Perun-payeri	153
105.	Ota, Mallotus Fuscesuns Croton *J. Muell*	W.	.. —	.. —	.. —	.. 36 10	.. —	.. —	.. do. ..	—	.. Ota	.. —	.. —
106.	Palol, Pignonia	.. W.	.. —	.. —	.. —	.. — 15	.. —	.. —	.. Planking of floors. Some of the old trees of this genus are variegated. It is a well-known medicinal tree	—	.. Palol	.. —	.. —
107.	Palu, Mimusops Indica Mimusops Hexandra *A. D. C.*	E., N., W. (dry zone)	526 ..	1½ ..	9 ..	68 10–70	.. 16 ..	20 ..	Oil presses, bridges and buildings. The berries are eaten. (Very durable, difficult to saw, suitable for heavy structural work, beams, joists and sleepers)	—	.. Palu	.. Palai	.. 333B
108.	Pamburu, Atalantia Missionis	W. and S. (dry zone)	— ..	— ..	— ..	48 40	.. —	.. —	.. House building, &c. When variegated it is a beautiful wood used for furniture and cabinet work. (Suitable for cabinet work, scales and ornamental frames)	—	.. Pamburu	.. Kuruntu	.. 125
109.	Pattadel, Artocarpus Nobilis *Thw.*	W. S. (common in low country up to 2,500′)	— ..	— ..	— ..	34 30	.. —	.. —	.. Boats and buildings. Fruits (9″ by 2½″) boiled and eaten as food, oil is obtained from the nut	Wild Breadfruit tree	Del, Bodidel	.. Araini-polar	.. 439
110.	Pathangi, (Casalpinca Sappan Sappu tree *L.*	W.	.. —	.. —	.. —	.. 46 —	.. —	.. —	.. This handsome little tree is most abundant in moderately warm climates, this wood is used for making pen holders, thread-holders, and some other small articles; a remarkable dye is extracted by its chip for colouring clothes, &c. A handsome ornamental tree	Sappu wood	.. Pattaregi	.. —	.. 147
111.	Patukela, Briedella Moonie *Thw.*	W.	.. —	.. —	.. —	.. 42 40	.. —	.. —	.. Common house building ..	—	.. Pat-kela	.. —	.. 417
112.	Pelanga, Palenga Zeylanica *Thw.*	W. C.	.. —	.. —	.. —	.. — —	.. —	.. —	.. Reepers for common house building, a very handsome tree	—	.. Pelanga	.. —	.. —

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			Weight at which broke	Deflection before breaking			Length	Diameter		English	Sinhalese	Tamil	
125.	Sudu Sandun, Santalum Album *L.*	— ..	.. —	.. —	.. — ..	— —	.. —	.. —	.. The wood is used in making oriental articles such as small tables, work boxes, &c. This tree is common in Eastern Asia but rare in Ceylon. Almost every part of the tree yields a good smell and is used for medicine	—	.. —	. —	.. —
126.	Siyambala, Tamarind (Tamarindus Indica)	N., W., E. (up to about 2,000)	.. —	.. —	.. — ..	80 80	.. —	.. —	.. Oil presses, furniture and buildings. The fruit is one of the principal curry stuffs among the Indians. Although this tree is of immense growth the stem is comparatively small. A short time after its dying, the timber begins to assume a variegated colour which indicates the commencement of decay. (Very durable and insect proof)	Tamarind	.. Siyambala	.. Puli	.. 220
127.	Suriya, Tulip Tree (Thespasia Populnea)	C., W.	..354 ..	1½..	16 .	49 20–40	.. 12	.. 16	.. Excellent for carriage, hackeries, blocks, gun stocks and useful for building. This tree is commonly grown on the sides of roads. It has a quick growth and affords good shade	The Tulip tree	.. Suriya	.. Puvarachu, Kavarachu	92
128.	Suriya Mara, Albizzia Lebbok *Benth*	W., C.	.. — ..	— ..	— ..	42 20–30	.. —	.. —	.. Common buildings and ordinary furniture	—	.. Suriyamara	.. Pounai-Murau-kai, also Karu-vagai	—
129.	Suwanda, Kayea Stysloah *Thw.*	W. (scarce)	.. — ..	— ..	— ..	56 30	.. —	.. —	.. Common house buildings. Its flowers are very fragrant	—	.. Suwanda	.. —	.. 35
130.	Tal, Palmyrah (Borassus Flabellifer)	N., E.	..407 ..	¾..	13 ..	65 35–80	.. —	.. —	.. Rafters and reepers, ola books are made of the leaves, toddy is drawn from the flowers from which jaggery is made. This is used occasionally for hardening mortar as also for medicinal purposes. (Ornamental articles of furniture, picture frames, poles, &c., are also made from this wood	Palmyrah	Tal	Pannai	.. 461
131.	Tammana, Mischodon Zeylanicus *Thw.*	CN., NW. (dry zone near streams)	— ..	— ..	— ..	— 20–45	.. —	.. —	.. Mostly used for building purposes and will not be injured in or out of water. (Durable, excellent for house building)	—	.. Tammana	.. Tampanai	.. 421
132.	Tarana, Stylocoryne Webera *A. Rah.* ..	WN. (widely distributed)	— ..	— ..	— ..	57 30	.. —	.. —	.. Common house roofing and construction of fishing boats and dhonies	—	.. Tarana	.. Karanai	.. 309
133.	Tekka Seyilam, Ceylon Teak	W.	..405 ..	¾..	17 ..	55 15–60	.. 21½	.. 11½	.. Bridges, rail carts, buildings and furniture	Ceylon Teak	.. Tekka	.. —	.. 304, 305
134.	Tekka Kochchiya (Cochin Teak) Tutona Grandis *Lin.*	—	..866 ..	½..	13 ..	44 15–90	.. 23	.. 17½	.. Carts, wagons, rail carts, bridges, buildings and arrack casks, the wood of this cask imparts a fine colour and flavour to the arrack. This and Nos. 133–135 stand as the best for railway sleepers, telegraph posts, &c. Fine wood for household furniture	Cochin teak	.. Tekka	.. —	.. 304, 305
135.	Tekka Murmom Teak Maulmim	—	..320 ..	½..	14 ..	42 15–90	.. 37½	.. 22½	.. As in Nos. 133 and 134	.. Moulmein teak	Teak	.. —	.. 304, 305

136. Telambu, Foetida *Lin.*	Sterculia	W. C.	..	—	..	—	..	—	..	26	30	..	—	..	—	..	Common house building (not durable but often used for boat building in the E. P., suitable for packing cases) Ditto	—	..	Telambu	..	Kadu-tinga	..	96
137. Timbiri, Embryopteris (Gab Tree)	Diospyros	W. (common dry zone tree)	—	..	—	..	—	..	45	20	..	—	..	—	..	The juice of the fruit is used to rub over fishing lines for the purpose of hardening and preserving them	—	..	Timbiri	..	Panichchai	..	337
138. Ukberiya, Calmia *Benta*	Garallia	S. Sab.	..232	..	—	..	—	..	51	80	..	—	..	—	..	Rafters and reepers for house building, mostly durable. This timber is of the same colour as No. 29. (An excellent building timber provided it is not directly exposed to sun and rain. Very handsome as panels for cabinets).	—	..	Ubboriya	..	—	..	244
139. Valanga, *lamb.*	Pterospermum Suberifolium	W. and C. (dry zone)	—	..	—	..	—	..	36	—	..	—	..	—	..	Poles of bullock carts, betel trays and gun stocks. (Very suitable for packing cases, materials or tunings ceilings and the like)	—	..	Welang, Welung		Vinaku	..	104
140. Urukana (Hogsear)		W. (Sab. S. wet zone)	—	..	—	..	—	..	34	—	..	—	..	—	..	Common house building and coffee and plumbago casks. (Much used for tea boxes but is very inferior and seasons badly)	—	..	Urukaru, Uruhonda		—	..	149
141. Waa (Cassia Florida Vahl May Zalu *Bn.* Cassia Siamea)		C, (N. W. P. rarely found above 2,000')	—	..	—	..	—	..	62	50	..	—	..	—	..	Grows generally on the banks of rivers. Household furniture and buildings. This tree is grown in British Burma where its hard black wood is held in equal estimation with ebony. Dr. Mason. (Makes very handsome tops to small tables or panels for cabinets, takes a fine polish, durable. Affords a splendid fuel)	—	..	Wa, Aramana	..	Vakai	..	215
142. Wal-amba (Wild mango) Mangifera Indica (Mangifera Zeylanica)		W. and C. (widely distributed)	—	..	—	..	—	..	25	10	..	—	..	—	..	Brake blocks for rail carts, packing cases, coffins and plumbago casks. The fruit is eaten and pickled. Of this tree there are many varieties. (In much demand for tea boxes as the wood is easily sawed and cuts economically)	Wild mango	..	Etamba, Walamba		Kaddumanga	..	179
143. Wal Bombu (Symplocos Spicata *Roxb.*		W., C.	..	—	..	—	..	—	..	36	15	..	—	..	—	..	Common house building. The bark and leaves are used for cattle diseases. (Suitable for small light work such as temporary rafters, &c.)	—	..	Bombu	..	Bombi	..	351
144. Wal buruta (Wild Satin) (Canthium Mountanum)		C. (from 4,000' to 7,000')	—	..	—	..	—	..	—	..	—	..	—	..	—	..	Bungalows, cooly lines, &c. (Has been used for railway sleepers)	—	..	Wal-buruta	..	—	..	315
145. Wal Domba, Calophythum, Sp.		W. (Sab. S.)	..	—	..	—	..	—	..	30	20	..	—	..	—	..	Common building. Oil is obtained from the nut, &c. (Admirable for door frames when polished, makes very handsome panels. Handsome ceiling boards can be made from this timber)	—	..	Dombi-kina	..	—	..	24
146. Wal Gonna, Ficus Cremata (Ficus Callosa)		W. and C. (wet zone up to 2,600')	—	..	—	..	—	..	—	28	..	—	..	—	..	Reepers for ordinary buildings, &c. (At one time rather freely used for tea boxes but, except for very temporary packing materials, it is unsuitable as a timber)	—	..	Gonna, Loalgonna		—	..	135
147. Wal Sapu, Nichelia Nelagirica *Tenk*		W., C. (a mountain species rarely found below 4,000')	—	..	—	..	—	..	—	—	..	—	..	—	..	Common ceilings, wardrobes book cases, carriage works and shelves. A large forest tree in the hilly districts in Ceylon. (With careful seasoning this is a most excellent and durable timber)	—	..	Walsapu	..	—	..	5

3—J. N. F. 2888 (11/50)

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			Weight at which broke	Deflection before breaking			Length	Diameter		English	Sinhalese	Tamil	
148.	Walukinepa, Calophyllum Bracteatum *Thw.*	W. and S. (wet zone)	— ..	— ..	— ..	— —	..	— ..	— ..	Hasts of dhonies. Oil is obtained from the nut. (Suited for indoor ornamental work, takes a fine polish)	Walu-kina	.. — ..	— ..	29
149.	Walla, Cyrinops Walla *Gaerta*	W. and S., &c. (wet zone up to 4,000′)	— ..	— ..	— ..	— —	..	— ..	— ..	Buoys, targets, models of dhonies and rafters for cadjan roofs. The bark of this tree yields a very strong fibre. (Suitable for insource in fancy cabinet work. Deserves consideration as a possible of material for hat manufacture, fine mats or cigar pouches)	—	.. Walla ..	—	.. 415
150.	Warania, Alocasia (Hedyotis Fruticosa)	W. (wet zone up to 1,000′)	— ..	— ..	— ..	— 10	..	— ..	— ..	Rafters for cadjan roofs. Fences made of sticks of this tree are the most durable. (Might be used for umbrella handles)	Weraniya	.. — ..	—	.. 305
151.	Wawarana, Gratana Roxburghii *R. Br.* (Akseedaphoe Sunecarpafolia)	C. (dry zone)	.. —	.. —	.. —	— 62–60	..	— ..	— ..	Buildings and pestles. (Is said to resist toredo and is therefore used in boat building)	—	.. Wewarana ..	Ranai Yarvaranai	409
152.	Weera, Osbickia Aspera *Bl.*	W.	.. —	.. —	.. —	.. — 50	..	— ..	— ..	Oil presses and buildings. It is extremely hard, strong and durable	—	.. Dodan-kaha, Weli-kaha	Kasa, Vengtela kayam, Kattikaya or Pavadai-kaya	271
153.	Welikaha, Momuylon Capitellatum *Thw.*	W. (dry zone)	— ..	— ..	— ..	— ..	..	— ..	— ..	Wall sticks for common buildings. (Suitable for sticks, tool handles and the like)	—	.. — ..	—	.. —
154.	Welipenna, Anisophyllea Zeylanica *Venth.*	W. and N. (wet zone up to 3,000′)	— ..	— ..	— ..	— 35–40	..	— ..	— ..	Common house building and agricultural implements. (Often used for shingles, makes very handsome panels for sma'l cabinets. Sometimes used for tea boxes)	—	.. Weli-penna, Weli-piyana	—	.. 245
155.	Wekimiya or Tehineya (Doona Congestiflora)	W. (Sab.)	.. —	.. —	.. —	.. — 30–36	..	— ..	— ..	Coffee and plumbago casks, &c. (Ideal for tea boxes. If very carefully seasoned, it makes a suitable wood for lining almyrahs, drawers and factory tables)	—	.. Thiniya ..	Koongili	.. 54
156.	Yukkahalu Doon Kapeziefolia *Thw.*	W. (wet zone below 3,000′)	— ..	— ..	— ..	60 30–50	..	— ..	— ..	Common house building. This tree yields dammer	—	.. Dun, Yakahalu Beraliya	—	.. —

SEASONING TIMBER

To season timber so that it may become one-fifth more durable than in its ordinary state, observe the following instructions of Thomas Trodgold, Esq., Civil Engineer, Fellow of the Institute of Civil Engineers, Hon. Member of the Literary and Philosophical Society of Newcastle-upon-Tyne:—

When timber is felled, the sooner it is removed from the forest the better, it should be removed to a dry situation, and placed so that the air may circulate freely round each piece, but it should not be exposed to the sun and wind; square timber does not rift or split so much as that which is round; and where the size of the tree will allow, if beams are to be used the full size of the tree it would be a good preservation against splitting to bore them through from end to end, as is done in a water-pipe. It is irregular drying which causes timber to split, and this method would assist in drying the internal part of the beam, without losing much of its strength, at the same time it would lighten it considerably.

WATER SEASONING

On account of the time required to season timber in the natural way, various methods have been tried to effect the same purpose in a shorter time, perhaps the best of these is to immerse the timber in water as soon as it is cut down, and after it has remained about a fortnight in water, but not more, to take it out, and dry it in an airy situation.

RECIPE FOR PROTECTING TIMBER AGAINST WHITE ANTS

To every gallon of water add 3 ozs. croton taglium seeds, 3 ozs. margosa bark, 3 ozs. sulphur, 2 ozs. blue vitriol—immerse the timber until it ceases to absorb the water and afterwards take out and dry in an airy situation.

PROCEEDINGS OF THE SEVENTH MEETING OF THE CENTRAL BOARD OF AGRICULTURE HELD IN THE BOARD ROOM AT THE ROYAL BOTANIC GARDENS, PERADENIYA, ON AUGUST 7, 1950, AT 2 P.M.

Mr. D. Rhind (Director of Agriculture), presided, and the following were present:—Dr. A. W. R. Joachim (Deputy Director of Agriculture); Mr. T. M. Z. Mahamooth (Deputy Director, Veterinary, and Government Veterinary Surgeon); Mr. C. A. M. de Silva; Mr. A Hensman; Gate Mudaliyar M. S. Kariapper, J.P., U.M., M.P.; Mr. B. F. Perera (Director, Rural Development); Mr. A. E. C. de S. Gunasekera (representing the Director of Irrigation); Dr. F. C. Cooke (Director, Coconut Research Scheme); Senator C. Wijesinghe; Mr. R. Singleton Salmon (Deputy Chairman, Planters' Association of Ceylon); Dr. E. Phillis (Director, Rubber Research Scheme); Mr. R. T. Chelliah, Mr. S. Sivapalan, M.P.; Rev. Fr. L. W. Wickremasinghe; Mr. A. L. Johnpulle (Divisional Agricultural Officer, Uva); Mr. E. Abeyratne (Agricultural Research Officer, Maha Illuppalama); Dr. W. R. C. Paul (Principal, School of Agriculture, Peradeniya); Mr. S. L. Bandara Dharmakirti, J.P.; Mr. Thomas Amarasuriya (Chairman, Low-Country Products Association); Mr. Marcus S. Rockwood; Mr. P. B. Bandaranayake; Mr. W. P. A. Wickremasinghe, M.P.; Mr. J. A. de Silva (Conservator of Forests); Major E. C. de Fonseka, M.B.E., E.D.; A. E. Madawala Dissawa; Mr. W. M. Cumaraswamy; Mudaliyar N. M. Abulcassim Maraikar; Sir James P. Obeysekera; Mr. U. B. Unamboowe; Gate Mudaliyar N. Wickremaratne; Mr. H. Abeyagoonesekera and Mr. H. E. S. Ranasinghe, C.C.S. (Secretary, Central Board of Agriculture).

The following visitors were also present:—Mr. K. Kanagasundram, C.C.S. (Acting Land Commissioner); Mr. A. W. R. Perera (Assistant Commissioner, Development of Marketing); Mr. A. V. Richards (Horticultural Officer); Mr. C. T. van Geyzel; Dr. R. M. Gorrie (Soil Conservation Officer, Department of Agriculture).

Letters and telegrams regretting inability to attend the meeting were received from the following members:—Dissawa P. B. Bulankulama, J.P., U.M., M.P.; T. B. Poholiyadde Dissawa, M.P.; Mr. K. W. Devanayagam; Hon. Mr. H. W. Amarasuriya (Minister of Commerce and Industries); Registrar of Co-operative Societies; Mr. U. B. Dedigama, R.M.; Mr. A. Perumynar, D.R.O.; Dr. M. F. Chandraratne (Botanist and Senior Agricultural Research Officer); Mr. Spencer Schrader, and the Director (Tea Research Institute).

I. CONFIRMATION OF THE MINUTES OF THE LAST MEETING

The minutes of the special meeting of the Central Board, held at Gal Oya on May 27, 1950, printed copies of which were circulated among members, were unanimously confirmed.

II. TABLING OF A LETTER FROM A MEMBER

A letter from Mr. A. Hensman and connected correspondence regarding prizes for students in the Girls' Farm School on " Speech Day " was tabled. The Chairman read the following extract from a letter addressed to him by Mr. Hensman, dated November 14, 1949:—

> " I wanted to speak to you regarding the Prize Day at Kundasale which, I presume, you will be having when the present senior batch of students complete their course early next year. I mentioned this to Miss Crowther this morning and she suggested that I may speak to you about it as she would not have the time to do so

before the Board meeting this afternoon, viz., to announce at the meeting today that the Principal will be glad to receive offers from members of prizes to be given to deserving students. I am sure the members who visited the Farm School this morning will be glad of the opportunity of offering prizes."

The Chairman said that the Prime Minister and the Minister of Agriculture and Lands were very interested in this School and he was sure the members would be glad of the opportunity given to them to offer prizes in certain subjects at this School. The first prize day was expected to be held next September and seven subjects would be available for prizes.

They were:—1. Agriculture.
2. Animal Husbandry.
3. Plantation Crops.
4. Horticulture.
5. Optional Domestic Subjects.
6. Junior Course in Agriculture.
7. Junior Course in Rural Home Management.

The Hon. the Minister had suggested that this matter be brought before the Central Board of Agriculture. The information was passed on to the Rt. Hon. the Prime Minister and the Minister for Agriculture and Lands and the Minister of Agriculture had stated that he wished to offer a prize for Animal Husbandry. The Rt. Hon. the Prime Minister also wishes to offer a prize but he has not yet specified which prize he proposes to offer. The Chairman then invited the views of the Board on the suggestion and inquired whether any members would like to avail themselves of the opportunity of offering prizes.

Mr. Hensman said that some of the members of the Board had only seen a few of the things that were being carried out at this School whereas he has had the opportunity of seeing much more of the inner working of the School as his daughter was a student. The training they receive there arouses a very keen enthusiasm for agricultural work. He believed that the training in agriculture for girls would help to keep people from drifting away from their homes to the cities. He felt that that object would be achieved because he had seen from his own experience and also from that of a friend of his whose daughter went through a course at the School. His friend had said that his daughter was a different child indeed taking an interest in the agricultural pursuits of her father and a keen interest in animal husbandry and allied subjects. He said that it was a privilege to most of the members to do whatever they could towards making the School and the work of the students more interesting, and in general to create a keener interest in the School. Mr. Hensman offered a prize to be called the "Sir Frank Stockdale Memorial Prize". Sir Frank Stockdale had been known to Mr. Hensman intimately at the time he was serving in the Forest Department. He added that Sir Frank was not only interested in agriculture but also in the work of the Forest Department.

The Chairman thanked Mr. Hensman for the very generous offer of a prize to be named after the late Sir Frank Stockdale. He was sure both the School and the Department would appreciate that gesture very much. He inquired from Mr. Hensman for which subject he would like to offer the prize.

Mr. Hensman replied that he would like to offer his prize for the best student in Practical Agriculture.

Mr. Marcus Rockwood inquired why there was a distinction between the Girls' School and the Boys' School. He felt that the Girls' School was very well looked after and it was the existing Boys' School for which prizes should be offered.

Gate Mudaliyar Kariapper agreed to offer a prize for General Proficiency to the best all-rounder.

Gate Mudaliyar Wickremaratne inquired whether the value of the prizes was fixed and how many prizes were offered and whether there were cash prizes.

The Chairman replied that there were seven prizes to be offered and as for the value of the prizes he said it was left to the donor to decide whether it should be a cash prize or whatever form it might take.

Sir James P. Obeysekera felt that normally memorial prizes had to be continued. Mr. Hensman replied that he offered it as an annual prize.

The Chairman said that they were now assured of four very excellent prizes, the first from the Rt. Hon. the Prime Minister, the second from the Hon. the Minister for Agriculture and Lands, the third and fourth from Mr. Hensman and Gate Mudaliyar Kariapper. The Chairman thanked them for their very generous offers both on behalf of the School and the Department and he hoped those prizes would be well earned and very much appreciated by the students.

III. RESOLUTIONS TO BE MOVED

The Chairman read out the resolution of Gate Mudaliyar Wickremaratne, viz:—

> " How best individual Planters and Estate Owners could contribute to the prevention of soil erosion and assist in the conservation of water in their respective areas. "

The Chairman said that the Board might first hear the views of Dr. Gorrie's Soil Conservation Expert, before they proceeded to discuss this somewhat technical resolution.

Dr. Gorrie was then asked to deliver his address.

At this stage the Land Commissioner inquired from the Chair whether the Board would agree to take up the resolution on ' the allotment of Crown Lands ' first as he wished to get back to Colombo early after the resolution was discussed.

Gate Mudaliyar Wickremaratne objected to this procedure as his resolution was the next item on the agenda.

The Land Commissioner said he was not pressing for his request if there was objection and the Chairman called upon Dr. Gorrie to deliver his address.

In opening his address Dr. Gorrie thanked the Board for the opportunity given to him to meet the members and discuss that subject. He said he had been in the Island for 7 months and would try to summarize the position as he saw it. Ceylon conditions were rather different from elsewhere and he thought that to understand the principles of soil conservation one had to get a rather wider view than one could get by studying Ceylon conditions. The subject of his address was Soil Conservation which was a very wide subject but it was specifically introduced in order to answer Gate Mudaliyar Wickremaratne's resolution, as to how best individual planters and owners could contribute to the prevention of soil erosion and assist in the conservation of water in their respective areas. He wished to give a brief summary first and then to show some slides he had taken of Gal Oya and other areas. Commenting on the general principles of soil erosion he explained the importance and value of the top soil and said that they must direct their energies to preventing the top soil from being washed away. There were two main classifications of erosion, namely, water erosion and wind erosion. As a result of the interest which had arisen in the United States over the Dust Bowl, the idea has been generally accepted that wind erosion is of tremendous importance but there was very little indication of wind erosion in this Island, though desiccation by wind could do serious damage by drying up the surface soil. In Ceylon, he said that rock is very near the surface so that it did not take much destructive effort either by geological processes or by man trying to make a living before the top soil was lost. If the thin soil crust is lost it did not matter whether we could blame geology or blame ourselves. Recently he had seen an illustration of rain drop erosion in a flower pot. Some coins had been put on the surface and it was watered by means of a watering can. Those areas covered by the coins did not erode but the rest did, showing that where there is no cover, erosion takes place especially from single heavy rain drops during the monsoon. There were other types of erosion including sheet wash and gullying, and gully-head erosion. He explained briefly how stream-bank erosion was caused by the larger rivers in flood, for example the 1947 floods in the Mahaweli ganga which caused a considerable amount of erosion right along the river bank. He also briefly indicated the uses of plant cover to stop erosion and also the advantages of contouring.

Some people had the idea that when contouring was done everything was all right but that was not so. He had seen places in the south-eastern states of America where 130 years ago George Washington, himself a planter, had done much contouring, but that did not stop the soil from going down, because other measures were not adopted at the same time to prevent erosion.

Two good sources of information on soil conservation were the United States and India. In America a great deal of work on the problem was carried out and machinery was employed for the contouring of fields and the benching of hillsides in order to get the surface more or less level. These fields were normally bigger than the ones found in Ceylon except for our departmental farms and the big plantations like rubber. In large blocks of land the channels that were used for carrying the water off were not made dead on the contour but had a very slight drop or grade of about 3 inches in a 100 feet.

It was very essential for cultivation to make the water remain on the land instead of allowing it to drain off down steep slopes. Much of the irrigation water available was wasted by the cultivators because the local custom was to keep flowing water moving through their fields. People were not wise in their selection of crops because they selected highly erosive crops like manioc, chillies, &c. He emphasized that he was not asking the people not to grow them but that they should be more careful in selecting their crops and in protecting the soil.

The benefit of farm ponds in the American programme had made a real contribution to soil conservation work. Those ponds were like the village tanks in Ceylon but considerably deeper and in addition to using them for the storage of water and thereby contributing to flood control those ponds were also used for breeding fish. He emphasized that no farm crop in America paid such a high rate per acre as fish in ponds. The same thing could be done in Ceylon because the whole country was studded with ponds dug hundreds of years ago but now silted up. To repair them we should take full advantage of the new types of machinery for earth moving. If farm ponds were established in Ceylon it would be a great contribution towards improving the economy of the country and also in conserving water. In India, bull-dozers were used extensively and the experience gained there could be of great value to Ceylon. Dr. Gorrie also emphasized the immense value of consolidating small holdings which were commonly as small as 1/5th to 1/10th of an acre. They should be built up into areas worth ploughing. There was also the co-operative approach. Co-operative work in the north of India was very popular particularly in the reclamation of waste land. In the district of Hoshiar Pur in India, 400 societies were devoted to the reclamation of land.

As regards Ceylon conditions chenas were the means of livelihood for most of the people but the food crops and the methods of cultivation were not suitable for conserving the soil or preventing erosion; considerable damage results from the burning of chena and patnas. After the vegetation is burned, the whole ground is exposed to heavy erosion during rains. This called for the better management of Talawa and patna grasslands.

Dr. Gorrie next showed a number of lantern slides showing different types of erosion both in Ceylon and in India. Among them were a few slides showing various types of cultivation carried on by the Agricultural Department. Members of the Board showed considerable interest in these lantern slides and Dr. Gorrie explained different aspects of erosion indicated in the pictures.

At the end of the lantern lecture, the Chairman stated that Dr. Gorrie had naturally touched on only a very few of the important items in a short time. He said that the Board should next deal specifically with the resolution before the House. The motion was then put to the House.

Sir James P. Obeysekera in seconding the resolution gave his experience of two properties in the area he represented. In one case the P. W. D. road to an extent of ¼ of a mile adjoining an estate used to be swept across by water annually during the heavy rains, this was entirely stopped after the estate had cut trenches 3 ft. × 2½ ft. between 2 or 3 or 4 rows of coconut trees according to the gradient throwing the earth on to the lower side. In constructing the trenches there was left 2 or 3 ft. uncut ground opposite the coconut trees so that water from one compartment could not flow into the next. This prevented soil erosion and held up nearly all the rain water. On another estate deep

ploughing was resorted to at the beginning and a very heavy cover crop grown; this was turned into the soil every two years with fertilizers. The cover crop was so very heavy that it had become a weed and there were no other weeds. The soil was so loose that one could drive a stick in anywhere on the estate to the depth of 12 inches or more., When the rains came down it was nearly absorbed into the soil.

Mr. Marcus Rockwood commenting on Gate Mudaliyar Wickremaratne's memorandum said that he had stated that Superintendents of estates and other individual members should make an honest effort to see what they could do to prevent soil erosion in their individually owned properties, &c., and the presumption was that efforts made by anyone so far to conserve the soil had not been honest efforts. Secondly he inquired whether Gate Mudaliyar Wickremaratne meant that members of that body were not making any attempt to conserve the soil and water. Referring to the history of the coffee industry some 80 years ago, Mr. Rockwood said that the Secretary of State for the Colonies at that time sent a despatch to the Governor directing that steps be taken to arrest deforestation which had been reported on in a memorial by Sir Joseph Hooker from Kew, during his visit to Ceylon. Referring to the mistakes of the past, he said that those mistakes were pointed out but unfortunately they had other interests at that time and no action had been taken. He remarked: " We all know what happened to coffee at the end." A few days ago he was talking to somebody within the inner circle of the Gal Oya Scheme who said that Dr. Gorrie was an alarmist. The same thing was said about William Vogt, author of " Road to Survival "; the authors of such opinions are people who get thoroughly alarmed because they cannot conceive of some of the predictions happening. He added that one must be on the land when there is heavy rainfall, to actually see the havoc taking place on the higher elevations; then only, with a little imagination, could it be realized what is happening at the lower slopes.

Mr. Rockwood further stated that not long ago at a D. R. C. meeting a member of the committee representing the Irrigation Department was warned by another member about siltation which could take place so as to make some of our anicuts ineffective and useless in years to come. The reply was that siltation does not take place in areas such as those under consideration. These areas were no less than apparently flat land in our semi-dry zones.

Mr. Rockwood emphasized that what is required now is prompt action and less talk. This, he said, could be accomplished by enforcing all that has been enacted as law to protect the land and country from damage, also that all the resolutions of this Board, on this subject, should be implemented by action. He added that if this could be done, especially with the co-operation of experts we have here now, a great deal could be accomplished. Japan he said, is foremost in soil conservation methods, unexcelled anywhere else in the world. He felt it was very necessary to have consulted experienced people like Dr. Gorrie. He felt that before the resolution was accepted the Board should ask for Dr. Gorrie's views for there may be problems that need advice.

Commenting on Dr. Gorrie's address he said that although Dr. Gorrie stated there was no serious wind erosion in Ceylon, in the north-western shores of Ceylon, i.e., from about Chilaw right up to Mannar there were sand dunes which in his opinion were created by wind erosion. He believed that if the existing rules in force in the country could be enacted with greater force to prevent soil erosion the resolution before the Board could well be implemented. He said that in the low-country too there was heavy rain and a good deal of damage from erosion and he believed that inter-cultivation would help to solve this to some extent. He also said that in extensive areas where felling of timber is done, people were in the habit of transporting large numbers of logs, sometimes 30 to 50 logs along timber drags. This causes a gully and a considerable amount of erosion takes place during the rains.

Mr. F. C. Cooke, Director of the Coconut Research Scheme, referred to the resolution and asked " how best individual planters and estate owners could contribute to the prevention of soil erosion ". He said that individual education was necessary and he cited the course of lectures on this subject, recently given by Dr. Gorrie. He said the men from the Coconut Research Scheme, who had attended this course expressed high praise of the

value of this course. He hoped this would be the first of many so that the knowledge of the principles of soil conservation could be spread throughout the length and breadth of Ceylon. It was no use enacting legislation which could not be enforced; people must be made to understand and taught how to do his work.

Referring to his previous experience in Malaya, he said that many thousands of acres of hilly country had, after 4 or 5 years, been completely spoiled by pineapple growers because of the total absence of any measures for soil conservation. This land was now abandoned and had all reverted to " illuk. " Even more erodable land in Hawaii, with proper soil and moisture conservation, was yielding increasing crops even though it had been under this same crop for the past 50 years.

In Malaya, the Government, after making a vain effort to compel the growers to adopt correct methods, had been forced to issue an edict that pineapples shall no longer be grown on upland soils, owing to the severe spoilage of land which had occurred. It may be necessary to resort to similar measures in Ceylon if people will not learn.

Referring to certain comments by Mr. Marcus Rockwood he said that he had observed that the climate and the rainfall in the Chilaw district were changing. He had made a study of rainfall in the Chilaw district with particular reference to annual rainfall and he had observed that there was a drop of about 30 per cent. in the rainfall in the last 3 years.

Mudaliyar Abulcassim Maraikar, commenting on a remark made by Dr. Gorrie that there was very little wind erosion in this Island, said that there was one area round about Talaimannar where sand dunes occurred. Round about Talaimannar there were hillocks and uneven ground all over and sand dunes were frequent. The villagers in that area have not put the land to any use owing to the damage caused by these dunes, and the whole area remained uncultivated.

Major E. C. de Fonseka said that the Lecturer had stated why people set fire to patnas. People who do this little realize the damage they do. There were two other reasons why people set fire to patnas, particularly in the Uva district. People who reared cattle were in the habit of setting fire to patnas because when the rains come down it affords a good supply of tender grass for their cattle. The second reason why they set fire to patnas was that people had a mistaken belief that they could produce rain during the drought by setting fire to the patna land. He inquired whether it was not the duty of Government or the Police to prosecute those who set fire to these patnas and thereby cause considerable damage. One of the speakers had said that education would be a solution, but he was of opinion that prosecutions would put an end to this kind of action.

The Chairman said that before he asked the mover to speak on that resolution he would like to make one or two remarks. He did not think that a discussion of that nature was the proper place to make specific and detailed recommendations because the subject was too complex. Every particular piece of land had to be dealt with in its own special way. He believed that the mover did not want to lay down a detailed programme to deal with erosion and soil conservation. Three speakers had touched on the matter of legislation. The first reference was to the despatch by the Secretary of State for the Colonies many years ago requesting certain laws to be passed in order to stop deforestation. Now there were certain regulations in existence aimed at reducing damage to the soil. Referring to the suggestion made by the Director of the Coconut Research Scheme about compulsory prevention of people doing harm, he said there was no doubt that the people did not realize the damage they were causing in various ways, and agreed that they have to be prevented from injuring what is the country's capital. The last speaker had referred to the matter of whose business it was to prosecute the people who set fire to valuable land. The Chairman said he did not know exactly how the mover of that resolution intended that the Board should indicate their views to the Ministry because of the wording of the resolution, viz:— how best individual planters and owners of estates could contribute to the prevention of soil erosion and assist in the conservation of water in their respective areas. Naturally they could contribute in an enormous number of detailed ways. He did not think that the Board could lay down a list of ways in which

they could contribute because there were so many ways and they were so varied. He then invited Gate Mudaliyar Wickremaratne, the mover of the resolution, to express his views.

Gate Mudaliyar Wickremaratne however, did not wish to speak on his resolution at the beginning of that discussion since he had already submitted a comprehensive memorandum on the subject.

The main points raised in his memorandum were as follows:—Gate Mudaliyar Wickremaratne in first tracing the history of Ceylon's conservation measures stated that in early times kings had done everything they could to preserve the hill country and its forests, but with the recent clearing of forests and the utilization of hills for planting crops without proper safeguards, soil erosion was caused. Owing to diminishing rainfall there would be nothing to stop the Island becoming a desert. He had stated that nearly 30 years ago the Director of Agriculture had drawn the attention of planters and other authorities to the question of soil erosion, but the majority of them did not give that question serious attention. Even with regard to the question of planting shade trees for green manure and the growing of cover crops it had received the attention of planters previously, but the attention paid to this item of work has been allowed to slow down now. Damage was caused to lands by the method of opening up drains on the slopes of estate lands and the use of the karandi (metal hook) for weeding tea lands. Each superintendent should, in his opinion, adopt remedial measures in earnest. In contrast to the soil conservation which had been caused by the terracing of land by cultivators for the purpose of planting paddy, the modern system of planting other crops on hill tops on modern lines had caused silting. In addition, lands had been sold haphazardly without observing any soil conservation measures like the preservation of (" ulpath ") springs and water courses in lands given for plantations. There appeared to be no prohibition against the selling of reserve forests and village forests and even stream reservations had been cleared. Large scale exploitation of forests by the Forest Department and the cutting down of valuable timber trees was a waste of forest land and even the ply-wood factory at Gintota had done damage to the virgin forests known as Sinharaja Adaviya which had hitherto contributed to the preservation of weather conditions and rain in the southern part of the country. A few years ago he had suggested the damming of rivers at their higher sources in order to build up reservoirs. The Board had passed his suggestion of growing shade trees and cover crops on tea estates which were necessary to protect the land from surface rushing down of rain water and which could facilitate the absorption of water by the soil. The springs (" ulpath ") should be preserved and those " ulpaths " which had been neglected should be regenerated by allowing grass and other plants to grow around them and replanting land reservations. Estate drains should be dammed and terraces constructed. He was of opinion that each superintendent or estate owner should have a plan of work for this purpose within a given period and he suggested the subsidization of such work. The clearing of low-lying forests in the Dry Zone for dry farming purposes and the denuding of high hills in the centre for planting purposes were in his opinion wrong steps, since forests should not be cleared except under a well planned irrigation system and there were no areas in this country suitable for dry farming proper. He strongly recommended that owners of land should make preparations for having cleared areas for planting purposes without safeguards against soil erosion and Government should see how best this should be done.

Mr. R. Singleton Salmon, Deputy Chairman of the Planters Association of Ceylon, said that about 10 days ago at a meeting of the Uva Planters Association attention was called to the fact that rainfall was decreasing and a small Committee was set up to go into the rainfall figures and invite Dr. Gorrie to address the planters on the question of decreasing rainfall, water conservation and the prevention of soil erosion which were all allied subjects. He said that that was one of the methods by which they could bring about what Mudaliyar Wickremaratne was talking about. In conclusion he said he would personally like to congratulate Mudaliyar Wickremaratne on the memorandum he had submitted.

Gate Mudaliyar Kariapper humourously stated that he was glad that Dr. Gorrie had visited the Gal Oya area, but he was afraid that if soil conservation measures were practised round about the hilly country, they who owned paddy fields would not get

any manure for their fields. The Chairman said that in regard to the question as to how the Board should deal with the resolution he felt that it was rather essential to make a specific recommendation, and requested the Board to permit Gate Mudaliyar Wickremaratne to specifically state the exact recommendation which the House should make, because, as the motion stood, it was in the form of a discussion as to how individuals could help in this matter of soil conservation. As he said before there were many different ways applicable to specific pieces of ground. The Chairman felt that the most that the House could do was to pass a sort of a blanket resolution without going into details. As the resolution stood in the name of Gate Mudaliyar Wickremaratne the Chairman wished to know from him the form in which it should go.

Gate Mudaliyar Wickremaratne said that his object in sending that resolution in that form was to see whether members of the Board would have any suggestions to make. At the request of a member of the Board and also a Minister who suggested that he should submit a memorandum, he had done so. He submitted that memorandum in April last, and wished to know what suggestions members would have. But one member was going into the history of some 80 years ago. He remarked, " What is the use of history when we have an expert who could see what is happening in Ceylon. Therefore our duty is to find ways and means of stopping soil erosion and methods of conserving the soil ".

To illustrate the amount of erosion that was taking place, Gate Mudaliyar Wickremaratne stated that about 5 or 7 years ago he used to get into a paddy field which had a large number of tiny fish. Now that very field is as hard as rock. Then again about 45 years ago when he was a student of agriculture at the School, he had to cross the river to get to the School. Then it was about 20 feet deep but now the river is so shallow that people could wade across. Therefore if the people in this country were keen on reserving their rivers, conserving the soil and preventing erosion, and thus contribute to the progress of the country, they should take it to heart and do something. Then they could prevent erosion and see that their rivers are running. He had heard in 1903 planters say that the prosperity of this country depended on the planting industry. The revenue to Government at that time was 25 million rupees. Today the revenue was about 540 millions but still the people were on the point of starvation. He said that the planters would not only be helping the country by adopting sufficient soil conservation measures but they would help themselves by way of better returns in crop. He had known of an estate of about 900 acres owned by Europeans, planted with tea and rubber. He had visited that estate some years back and it was a beautiful sight with ponds and a large lake, and some paddy fields down below. The labourers on the estate had plenty of water from that lake. But recently he had seen the whole area covered by the lake planted with tea. At Maskeliya he had seen 45 acres of fields that have been washed away. He had on many previous occasions by his own observations recommended proper drainage and the planting of shade trees as a measure against the washing away of the soil. Though he was not a scientist his observations were correct and he believed that those were some of the ways in which soil conservation could be arrested. He said his memo was circulated about four months ago and he hoped that the Board would have some discussion on that resolution and that some recommendation would be made to Government if possible, and he did not want to have it as a resolution.

Commenting on the Gal Oya area he said that it was a very pathetic story. He said it was past history now, but before the Gal Oya project was undertaken he had warned the Minister of Agriculture that before any scheme was started, reafforestation along the slopes of Lunugala which fed the Gal Oya basin was necessary. He had visited the Gal Oya area in 1908 and he had been there recently and he knew the difference. He did not claim himself to be a scientist but his knowledge of the country and his keen observation and his long life had helped him to make those suggestions some years back. In conclusion he thanked Dr. Gorrie for his address on the subject, and said that about 90 per cent. of the points raised by Dr. Gorrie were embodied in his memorandum.

The Chairman thanked Gate Mudaliyar Wickremaratne for his views and said there was general agreement, to put it briefly, that something must be done against soil erosion. But the difficulty was that there was no real recommendation which could be sent to

the Ministry. It was no use trying to lay down a list of detailed recommendations because of the complexity of the subject. The Chairman said he would like the House to consider passing a resolution in general terms saying that having discussed the question of soil erosion and water control and listened to an address by the expert on the subject, the Board recommends something to the Ministry, such as better enforcement of the existing regulations or revised regulations, &c.

The Chairman said that the fact that the Ministry has employed an expert to go into the question of soil erosion reveals that the Minister considers that something should be done. But he wished to know what should be put down in the minutes as a recommendation to the Ministry. If the members and the mover liked he could send it to the Ministry as it was without a recommendation.

Dr. E. Phillis, Director of the Rubber Research Scheme, felt that legislation by itself would prove useless. He recommended that simple instructive films on the various aspects of soil erosion should be shown in the countryside so that people would see for themselves what was happening to their land and by that means attention could be drawn to the danger of soil erosion.

The Chairman inquired whether he was to move from the Chair that the Central Board of Agriculture having discussed and listened to an address by the Soil Conservation Officer is in agreement that anti-erosion measures are urgently needed and that the Ministry should take early steps to introduce special legislation on the subject.

Mr. Thomas Amarasuriya felt that it was not proper at that stage to move a resolution because he felt it was premature. The very fact that the Ministry had got down an expert, obviously indicated that the Minister had realized the situation with regard to soil erosion. That officer is asked to investigate and he felt that there was no urgent hurry to pass a resolution before that report is out.

Gate Mudaliyar Wickremaratne said he was sorry to listen to an experienced man like the Chairman of the Low-Country Products Association talking in that manner.

Mr. Hensman recommended that the motion should be put to the House.

The Chairman accordingly put the following motion to the House:— " That the Central Board of Agriculture having listened to an address by the Soil Conservation Officer and discussed the question of soil erosion and water conservation, and read the memorandum by Gate Mudaliyar N. Wickremaratne (which is to be forwarded to the Hon. the Minister for Agriculture and Lands) on this subject was in agreement that the Hon. the Minister of Agriculture and Lands should take steps to consider the question of introducing legislation on the subject. "

Mr. Hensman seconded the resolution.

The motion was put to the House and carried.

At this stage (4 p.m.) the Chairman, Mr. Rhind, vacated the Chair as he had another engagement and the Deputy Chairman, Mr. C. A. M. de Silva, occupied the Chair.

The next item on the agenda was a resolution to be moved by Major E. C. de Fonseka. The Chairman requested him to move his resolution formally.

Major E. C. de Fonseka in moving his resolution, " *That early steps be taken by Government to appoint a Milk Commissioner* ", said that it was a well known fact that the consumption of milk in Ceylon was 1.7 oz. per head per day compared to 35 oz. in England and 56 in New Zealand. He said that that was the lowest in the world but comparing the price paid for a bottle, about 80 to 85 cents, it could be safely put down as being the most expensive in the world. Vast quantities of milk were available at such places as Kurunegala, Bandarawela, Talawakelle and Polonnaruwa at about 25 cents a bottle instead of 80 or 85 a bottle in Colombo. That showed that there was something wrong in the distribution system. He emphasized that Ceylon had a very fine network of railways and a good system of distribution was possible. He said that if only milk could be collected in places like Polonnaruwa, Kurunegala, Talawakelle, and taken to Colombo in refrigerator vans, pasteurized and distributed, consumers would be able to get their supplies cheaper. The first thing that the Indian Government did to solve the milk problem was to appoint a Milk Commissioner. He was given a time limit within

which the distribution system should work. There were eleven units at the Milk Colony at Aarey Milk Colony and each unit had 560 buffaloes and each buffalo gave about 25 bottles of milk. Some of the units are owned by individuals, but the majority of them are run on co-operative lines. There was a central depot and several sub-depots and most of the people employed in distribution were voluntary workers who did it as a national service.

There is another interesting thing in Bombay where milk is " toned. " Since buffalo milk contains more fat than is necessary for human consumption, Government has established a special dairy for making " tone " milk by mixing whole buffalo milk, water and skim milk powder. This " toned " milk is sold cheaper than whole milk but contains all the nourishment needed. He said that the present production of milk was about 23 million gallons and said that the production should be increased to at least 70 million gallons if the health of the population was to be preserved. He urged that the Government should take similar steps in Ceylon and should appoint a Milk Board as well to assist the Commissioner, who should be given a set task and a time limit. He felt that that was the only solution to the milk problem. He said that if a Milk Board was appointed to assist the Milk Commissioner it could assist the Commissioner in various ways and go into the question of Breeding Centres, &c., and later direct their attention towards propaganda for the consumption of milk which is an essential article of food for children, expectant mothers and others who need milk. He felt that if there was a better form of distribution it will help the producers also to get a better price and solve many difficulties which they will not be able to solve individually.

Mr. W. M. Cumaraswamy seconded this resolution.

Gate Mudaliyar Kariapper supported the motion and said that it was a very useful one.

The resolution was then put to the House and unanimously carried.

Since item 5 on the agenda had been withdrawn by the mover, the Chairman took up the next item on the agenda.

Gate Mudaliyar Kariapper formally moved the following resolution: —

" That this Board is of opinion that in the allotment of Crown lands, the following principles should be observed. As priority No. 1, all landless villagers in the neighbourhood of irrigation or colonization schemes should be provided with lands. This provision should not be honoured by the giving away of token allotments but the demands of all landless villagers should be fully met. When this category of allottees is exhausted, priority No. 2 should be given to labourers who had helped to develop the scheme by putting in work for more than 500 working days, provided, however, that these labourers are otherwise qualified for selection. As priority No. 3 lands should be given to the married sons and daughters of pioneer colonists who had settled down in the colony for over 10 years. If any lands are left over after satisfying requirements under the said three priorities, they may be allotted to the rest who do not come within the specified three groups. "

Gate Mudaliyar Kariapper said that very few words were required from him to introduce the resolution to the House. He said that in the issue of any commodity there were standard measures, whether in the case of textiles, currystuffs or cereals, and there were also Government officers to examine those weights and measures and go about the country and see whether those standard measures were properly maintained. But as regards the most valuable commodity and the national commodity in this country—Crown land—there were no such specific standards. He added that he felt sure that the distribution of Crown land in the hands of the Hon. the Minister was very safe. The Minister had a certain duty to perform by the people and he was sure the Minister would dare not fall short of it. But in this instance the Minister did not allot the lands. He delegated either his Revenue Officer or a Divisional Revenue Officer and each Revenue Officer had his own way while the allottees of these Crown lands had to go from district to district and there was much discontentment. There were times when the actions of the Revenue Officers were questioned by the villagers. He emphasized that the days when the Village Headman or the Vedarala of the place was the supreme ruler, were gone. To substantiate his statement he quoted a humorous incident supposed to have

taken place in the ancient days about how a man was buried alive as the Vedarala had made his final observation that the man was dead. He said he quoted this incident to show that the present day people were more advanced and were liable to question. It was therefore in the interests of everybody concerned to see that a certain standard was laid down in the allotment of Crown land. In other words he only wished to advise the Minister that a policy might be laid down for the guidance of the Revenue Officers in the allotment of Crown lands. He emphasized that such a policy would ensure firstly, some uniformity in the selection of allottees throughout the Island irrespective of the District or the Province, secondly it would enable to win the villagers' confidence that the selection had been made in conformity with the existing regulations. The present position was that the allotment depended very greatly on the view taken up by a particular Revenue Officer in a particular district. He stressed the fact that some sort of uniformity in the selection of allottees was essential. In conclusion he said that this was an absolutely uncontroversial motion and hoped it would receive the full support of the House.

Mr. R. T. Chelliah speaking on the motion said that there was much discrimination in the allotment of Crown land between the middle class and the peasants. He said that in the case of peasants the Government had taken sufficient measures to meet their wants in the allotment of Crown land whereas the middle class man was given little opportunity of getting Crown land for cultivation. He was of opinion that the middle class man would make better use of the land because for one reason he had the education to put him on the correct lines to develop his land and secondly, he had the finances to develop and maintain his land well.

Mr. Hensman said that it was the actual cultivator who needed land and it was such people Mudaliyar Kariapper had in mind.

Mr. W. M. Cumaraswamy said he would like to point out a misunderstanding among the people as well as those responsible for the allotment of land. In the allotment of land no discrimination should be made between the man who is English educated and the villager. A person might not have a knowledge of the land nor a bank balance, but he should be treated in the same way as any other who is entitled to Crown land. He felt that that sort of policy should be removed. If an educated man goes back to the land he would turn out to be a cultivator, but a man should not be debarred from being a cultivator because he is educated.

Mudaliyar Abulcassim Maraikar said that there seemed to be definitely a misunderstanding about the allocation of lands. Allocation of Crown land was entirely in the hands of the Revenue Officer. The Revenue Officer is expected to hold land kachcheries. There was a set of rules existing for the guidance of the Revenue Officer and he had also to use his discretion in the allotment. There were two classes of cultivators, one the peasant class and the other the middle class. Generally speaking a peasant was a cultivator. A peasant was a person who required land for cultivation and one who is not possessed of cultivable land. The middle class man was distinguished from his annual income which was put down at a certain figure. Those rules were laid down in a manual and the officer who allocated the land had to be guided by those rules. He stressed the fact that there was no uniformity in the allocation of land. For instance there was no uniformity in the extent of land to be allotted to one man and the extent of land to be allotted to another. But at the same time he was aware that Revenue Officers had exercised sufficient care in allocating Crown land. Before Crown land is allotted, Revenue Officers had always to verify several points, for example, whether the applicant is already possessed of any land in the area, whether he is able to cultivate the land, whether he himself is in a position to cultivate, or whether he was going to lease out the land. All those points were very essential and were always inquired into before allotting land. If a man was landless he was definitely given preference in the allocation of land, and the Revenue Officers use their discretion. But if there was a uniform system, there should be one system for every area. He believed that that was the intention of the mover in bringing that resolution before the House. At times it so happened that when a land kachcheri is held there were people who, without making an application ask for land. In such cases if the person applying for land is entitled to it he was allotted land. He had mentioned this only to emphasize the point that there should be a uniform system of allocating land, and said he would be glad to hear the views of the Land Commissioner.

Mr. W. P. A. Wickremasinghe inquired why a resolution of that nature should be brought up when there were three different ways of distribution of land. There was a scheme of distribution of Crown land for peasants, there was a middle class scheme and there were Colonization Schemes. He felt that it was the Minister's responsibility to lay down regulations governing the allotment of Crown land and that this Board had no right to pass any rules as such. The policy in regard to major irrigation schemes, major development schemes like the Gal Oya Scheme, &c., should entirely be left to the Minister to decide. If the mover feels that landless people should be given land, under Colonization Schemes, there were certain rules to be observed. He also disagreed with the view that men of the place should be given preference when giving out Crown land. He emphasized that people from other villages too would like to be benefited by those major schemes mooted by Government. He also felt that it was not possible to have one system for the whole country because what is applicable to the Eastern Province may not be applicable to the Southern Province. He emphasized that the policy to be laid down in regard to major schemes should be left to the Minister and he felt that this Board in trying to lay down rules and regulations might be overstepping its jurisdiction. He felt that the resolution before the House was too premature at this stage and requested Gate Mudaliyar Kariapper to withdraw the resolution until the Gal Oya Scheme was completed.

Rev. Fr. L. W. Wickremasinghe speaking next said that he was aware there were definite instructions by the Government in regard to the allotment of land, but nevertheless the Revenue Officers were guided by the Headman and his Clerk in allocating lands. He gave an instance of how 2 years ago at Hambantota a land kachcheri was held for the allotment of about 300 acres of Crown land when people from another district came on to the scene and were on the point of obtaining land, which they were to give to another party for cultivation. Father Wickremasinghe had come to know about this and had represented matters to the Land Commissioner who held an inquiry and ordered that the land should be given to the people of that village. He added that the first and foremost thing should be to protect the villagers who did not possess property, and to give them the first choice. Secondly, people who had been for at least 10 years in that village cultivating the land should be considered, and thirdly people who have been in that area for a proportionate period should be considered. But unfortunately most of the Revenue Officers are misguided by the Headmen and the Clerks. This resulted owing to constant transfers of Revenue Officers. When a Revenue Officer had just been in a place for about two months, a land kachcheri is held and naturally he has to be guided by the Headman. Even if the Headman were to give wrong information to the Revenue Officer with the idea of helping an interested party, a villager in that area would never dare to speak against the Headman because he would not be able to live in that village. He felt there was nothing wrong in the present regulations if only corruption can be removed.

A. E. Madawala Dissawa said that he did not agree with Father Wickremasinghe that the Revenue Officer was misguided by the Headman owing to corruption, &c. That might be true in his area but that was not the case in other areas. When allocating land to peasants, the Revenue Officers took all precautions. According to each family, the extent of land was decided. He emphasized that in most of the places where land kachcheries are held there wasn't sufficient land to be given to everybody. The first preference was given to the men of the place and he is given the first selection and then people who have been in that area for over 10 years are considered for allotting land. Revenue Officers are given definite instructions in the allocation of land and there might have been one or two stray cases where the villagers had been duped by the Headman but that was not so in all areas.

There being no other speakers on the resolution, the Land Commissioner made his observations. He felt that the resolution of Gate Mudaliyar Kariapper was very vague and was subject to a lot of criticism as was evident from some of the previous speeches. He did not quite agree with the resolution as it stood but he agreed with the view expressed by Gate Mudaliyar Kariapper in his motion, in regard to the question of land under Colonization Schemes. The resolution in his opinion was based on a misapprehension of the basic procedure that is being adopted in the Ministry of Agriculture and Lands. If he went further to describe the procedure and say what that scheme was, then he felt that the members of the Board would agree that that resolution was unnecessary. As regards the

major colonization schemes, there was a Committee consisting of departmental officials who lay down the scheme of development, and that scheme is issued as a sessional paper. He gave examples of such schemes on which sessional papers have been issued, such as the Parakrama Samudra Scheme, &c. The recommendations were made in those sessional papers as to the use of the land and all that the Ministry had to do was to adhere to those recommendations. But of course the recommendations were not adhered to rigidly because sometimes when conditions changed, those recommendations had to be slightly modified to suit the circumstances. He said he could do no better than illustrate examples. He gave an instance of how a proviso had been made in the allotment of land in the Province of Uva that that land should be reserved only for villagers in the Province of Uva. He emphasized that landless villagers should be provided with land and that that was the policy adopted. He also quoted how land in the Parakrama Samudra had to be distributed. Regarding Mudaliyar Kariapper's suggestion No. 2, that labourers who had helped to develop the schemes and who had put in over 500 days work should be provided with land, he said that the allocations from the major schemes were done by the Ministry of Agriculture and Lands. He also added that the Gate Mudaliyar was not quite correct in having thrust the blame on the Revenue Officers. The allocation of land was not done by the Revenue Officers but by the Ministry. He also gave an example of how 800 units had to be allocated under the Ex-Servicemen's Scheme as a relief measure, from the Parakrama Samudra. He gave another instance of how a whole village in the Kotmale area was transplanted in some other part of the country rendering several homeless. They had to be given relief and something like 640 units were allocated from the Parakrama Samudra.

In regard to the standard measure that Gate Mudaliyar Kariapper was keen on, he said that no such limits or measure could be specified in the alienation of Crown land and that the Ministry should have a method to decide the needs of the whole Island. He said he could give further illustrations by figures which were very illuminating. In regard to Mudaliyar Kariapper's three priorities, first to the local landless villagers, second to the labourers who helped to develop those schemes and third to the sons and daughters of colonists, the Land Commissioner said that if that suggestion was effected he could not say how the Government could tackle the problem. If that was the case he asked what the position would be of districts where there was over-crowding, and of districts where there wasn't sufficient land. It was for that reason that the distribution of land had to be governed by those three rigid rules. As a further illustration he said that for 104 allotments there were 7,940 applicants in one instance and again for 75 allotments there were 5,964 applicants. He laid stress on the fact that those figures indicated that there was land hunger in the country. In regard to the point raised by Gate Mudaliyar Kariapper that there should be uniformity in selection and also in regard to the difficulties enumerated by Father Wickremasinghe and a few other speakers in reference to the selection of land kachcheries, he emphatically stated that the criticism that there was an absence of regulations or absence of orders was not justified. If there was one subject on which Government directions had specifically been put down in black and white, it was the subject of selection of land kachcheries. Every Government Agent or Assistant Government Agent who holds a land kachcheri was guided by those specific rules and he had experienced that sometimes they had to work under very difficult circumstances. He, however, did not think that all the selections in the past had been perfect for there might have been errors committed, but on the other hand he felt that the people themselves were to blame because if anybody who was not qualified was selected for allotment of land the villagers in that area should object. Otherwise it was difficult for the Government Agent to know whether the applicants were genuine or not.

Referring to the question raised by Mr. Chelliah that the middle class men had the means to cultivate and that they would do better than the peasants, the Land Commissioner emphasized that peasants should necessarily be given the preference. The means of a person was absolutely irrelevant in the distribution of Crown land. The fact that the peasant is poor did not make him less eligible than the middle class man. There was no question of priority one, two and three. There was only one priority and that priority was to the landless local villager. As far as he could see that resolution relates to the allocation of land under major colonization schemes on which he had already commented earlier. In conclusion he said that he hoped the Board would consider that resolution unnecessary.

The Chairman thanked the Land Commissioner and the mover of the resolution and said that he would suggest the appointment of a Sub-Committee to go into that matter. He emphasized that it was best to go slow in the absence of the permanent Chairman. The Chairman requested Gate Mudaliyar Kariapper to name 5 members of the Board who would form the Sub-Committee, if there was any modification contemplated in the existing rules so that a report could be sent to the Minister for consideration. He agreed with Father Wickremasinghe that really genuine landless people could not get the land they wanted. He was personally aware of a similar thing which happened in the North-Western Province.

At this stage Mr. W. P. A. Wickremasinghe rose to a point of order and said that it was improper to appoint a Sub-Committee to go into the matter when the resolution had not been accepted by the Board.

Gate Mudaliyar Kariapper wanted to speak again and as the time was somewhat limited he was allowed 5 minutes. He thanked the Chairman for having allowed him even 5 minutes and went on dealing with different points that were raised in the course of discussion. Mudaliyar Kariapper also thanked the Land Commissioner for the very useful points which were illustrated in his remarks. He was glad that the Land Commissioner had said that the Gal Oya Scheme would not only concern the 3 categories already mentioned but several others. There was nothing controversial in his resolution but those points were raised for the benefit of the landless. In regard to a statement made by Mr. Chelliah that there was discrimination between the middle class and peasant class in the allotment of land, he emphasized that as far as he was concerned the question of class did not arise for it had never been in him to distinguish between classes. He considered all those people as Ceylonese and did not go by the class. The other question was how landless people in the neighbourhood could be settled. The Land Commissioner himself had said that landless people were given preference and that the land at Batmedilla Scheme has been set apart for the people of Province of Uva. Therefore he said there was nothing controversial in his resolution and added, " So that you will find that we are not at cross purposes at all. " In regard to another question raised as to whether the Board was not overstepping its jurisdiction, Gate Mudaliyar Kariapper explained that they were all functioning in an advisory capacity to the Ministry of Agriculture and Lands. The Board was only making a recommendation to the Ministry in regard to the allotment of Crown land and there was the Land Commissioner and other officials to advise the Minister on any recommendation that is submitted to him, and therefore he was convinced that the Board was not dictating to the Minister in submitting such recommendations. He also pointed out that the suggestion to appoint a Sub-Committee to go into the matter came from the Chairman.

The Chairman agreed with the view of a previous speaker that a Sub-Committee could not be appointed to go into the matter until the resolution had been accepted by the House.

The resolution was accordingly put to the House and lost.

IV. ANY OTHER BUSINESS

The Chairman said that the Director of Agriculture, Mr. Rhind, was leaving the Island on September 6 and that he would like to take up this matter under " any other business. " He said he convened an informal meeting at the Rest House at which the opinion was expressed by the members of the Board that Mr. Rhind's services should be retained. He (Mr. C. A. M. de Silva, Vice-President of the Board) was deputed at this meeting to try to persuade Mr. Rhind to continue in service to serve the country and to place before the Minister of Agriculture certain facts. He understood that Mr. Rhind had not stipulated anything but he had just left it blank, so that they would have a chance of retaining his services in the best interests of the country. He said that the members were all aware that all of them expressed at the informal meeting that Mr. Rhind had done his bit during the short period he had been with them and that that period was far too short for one to judge his abilities or see the fruits of his labours. He

emphatically stated, " I as a practical planter can tell you that no man can fulfil his job within that short period. I am sure that you all will agree with me that he has done his best for us with his experience in paddy cultivation. We cannot blame the Director and his department or the officers of his department for the lack of enthusiasm taken by our cultivators. Once the tenancy problem is decided I am almost sure that our production in paddy will increase. " He said he was sorry for the villager who had to labour hard with his paddy crops at the end of which the absentee landlord got his share. He was sure that the villager would do his very best to enrich the soil and get better yields but for the tenancy system. He continued, " I am sure you all will agree with me when I say that as a body mainly composed of agriculturists, it is we who can see his work and it is we who can view his work. " He hoped that the members would all agree with him that in the best interests of the country they should retain him (Mr. Rhind) for another period instead of importing a new man and asking him to carry on. He emphasized that he had moved in this matter not because Mr. Rhind was his personal friend but because he (Mr. de Silva) loved his country and felt that Mr. Rhind's services especially at this time would be indispensable. In conclusion he said he would like to have the views of the Board.

Gate Mudaliyar Kariapper speaking next said that it gave him great pleasure to associate himself with the remarks from the Chair about Mr. Rhind. He did so not because Mr. Rhind was a personal friend of his as the Vice-Chairman had claimed, but because he knew Mr. Rhind as a personal friend of the paddy farmer. Mudaliyar Kariapper said he was himself a man from the paddy farming district of Batticaloa and it was no exaggeration to say that Mr. Rhind was of immense service to the paddy farmers of the whole Island. For the short period of three years he had been with them, he had proved his worth. He emphasized that they, the paddy farmers of this Island, could not go on experimenting for the Directorate. There was a senior Civil Servant as Director and then another Civil Servant and the third experiment was a technical man from abroad. He reiterated that the members of the Board would bear him out when he said that this officer's work had received appreciation from all quarters. He added that they did not know the reason why Mr. Rhind was quitting the Island but if it was for reasons that could be adjusted by the Government of Ceylon, he felt that it was their duty, in the interests of the peasantry of the Island, to pull their weight in whatever direction and see that Mr. Rhind's services were retained for the benefit of the Island. He was not certain whether Mr. Rhind was going purely on the question of salary. That was a matter that could easily be adjusted. He suggested that it was best at that meeting to appoint a deputation to interview the Hon. the Minister to find out if it was possible to retain Mr. Rhind's services. In conclusion he said that they should keep a man who had been tried in the Agricultural Department and that they should also see that the full value for his services is paid.

Mr. W. M. Cumaraswamy in supporting the continuance in office of Mr. Rhind said that it was a matter concerning the whole country. He emphasized that the agricultural development of the country was of vital importance and that when so many new schemes are just coming up, the Ministry should consider carefully what action is suitable at the moment. He emphasized that at this stage it was not advisable to have a change in the Directorship, for if anything failed the question would not be answered as to who was responsible for the failure. He stressed the fact that it was nothing but reasonable that the countrymen should remain satisfied and should have confidence in the man who was selected by Government as the most competent man to handle the economic development of the country.

Dr. F. C. Cooke, Director of the Coconut Research Scheme, said that he had been in the East 21 years and he was prepared to say that Mr. Rhind was the finest Director of Agriculture he had served under.

With the permission of the House Mr. Chas. A. M. de Silva (Vice-Chairman) moved the following resolution from the Chair:—

" That the Central Board of Agriculture is unanimously of opinion that it is in the interests of the inhabitants of Ceylon in general and of agriculturists in particular

that the services of Mr. Rhind be retained as Director of Agriculture and the Board accordingly request the Ministry of Agriculture and Lands to consider whether steps could not be taken without delay to extend the contract of Mr. Rhind as Director of Agriculture for a further period of years. ''

Gate Mudaliyar M. S. Kariapper seconded.

The resolution was unanimously accepted by the Board and the Chairman remarked that a simple resolution of that nature would not bear fruit unless they had a face to face talk with the Minister who was considered to be a very reasonable man. He said that the Minister was sure to agree if they could come to some compromise and hoped that there would be certain things that Mr. Rhind would even forego, realizing that the country wants him and that the country had appreciated the little that he had done during his short period here.

The Chairman stressed the fact that there was only a month more and that they should not delay any longer. The following were appointed to go in deputation to the Minister:—Mr. Chas. A. M. de Silva, Gate Mudaliyar M. S. Kariapper, Sir James P. Obeysekera, Rev. Fr. L. W. Wickremasinghe, Mr. W. M. Cumaraswamy, Mr. A. Hensman, Senator C. Wijesinghe and Mudaliyar Abulcassim Maraikar.

Sir James P. Obeysekera said that the deputation should impress that it was not a matter of rupees and cents but it was a matter that concerned the whole country. He observed that even if a new man is imported he would take some time to settle down and before he could get going with his work his agreement would end. He could not see why there should be any difficulty in making some adjustment if Dr. Jennings was given a thousand rupees more and retained when he wanted to go away.

The meeting terminated at 5.15 p.m.

H. E. S. Ranasinghe,
Secretary,
Central Board of Agriculture.

Peradeniya,
August 20, 1950.

MINUTES OF A MEETING OF THE BOARD OF THE TEA RESEARCH INSTITUTE OF CEYLON HELD AT ST. COOMBS, TALAWAKELLE, ON JULY 26 AND 27, 1950.

Present (26th).—Mr. R. C. Scott, C.B.E. (Chairman); The Chairman, Agency Section of the Planters' Association (Mr. G. K. Newton); The Chairman, Planters' Association of Ceylon (Mr. R. C. L. Notley); The Director of Agriculture (Mr. D. Rhind); Messrs. W. Neal de Alwis, J.P., U.M., J. C. Kelly, F. A. Bond, Errol Jayawickreme, V. G. W. Ratnayake, M.P., and J. Lamb (Director and Secretary); Mr. R. Singleton Salmon was present at 2.30 p.m.

Letters regretting inability to be present were received from Mr. L. B. de Mel and Mr. T. D. Perera, C.M.G., C.C.S. (Secretary to the Treasury, representing the Honourable the Financial Secretary).

In addition to the discussions recorded in the following minutes, members of the Board took the opportunity afforded by meeting at St. Coombs of seeing some of the experimental work in progress, inspecting buildings and metting all members of the staff.

1. The notice convening the meeting was read.

2. The Minutes of the Meeting of the Board held on June 23, 1950, were confirmed.

3. MEMBERSHIP OF THE BOARD.

The Chairman reported that Mr. T. D. Perera, C.M.G., C.C.S., had been nominated by the Honourable the Minister of Finance to represent him on the Board as from July 10, 1950.

4. STAFF

Retiring Age.—The Director recommended that a retiring age should be fixed for ALL members of the staff. After some discussion it was resolved that the normal retiring age should be fixed at 55 years. The Board reserved the right to request any officer to stay on for a further five years if an extension of service was considered desirable.

5. FINANCE

The Chairman informed the meeting that the Auditors' Report and Accounts for 1949 had been very fully considered by the Finance Sub-Committee and that it was decided to recommend to the Board their acceptance together with the proposals made by Mr. Kelly.

The Auditors' Report and Accounts for 1949, were accepted on the proposal of Mr. J. C. Kelly which Mr. H. de T. Wilkinson Kay seconded.

Mr. J. C. Kelly said he wished that an appreciation of the good work carried out by the Accounts Department should be recorded. Accepted.

6. ANY OTHER BUSINESS

(*a*) *Recreation Hall for Junior Staff.*—The Chairman asked for the Board's approval for the construction of such a hall as a memorial to the late Director, Dr. R. V. Norris.

This was unanimously approved.

It was finally decided that expenditure to the extent of Rs. 25,000 be incurred on a Club House (Recreation Room) for the junior staff as the first part of a scheme to serve as a memorial to the late Director, Dr. R. V. Norris, D.Sc.

(*b*) *Extension to Laboratory Buildings.*—The Chairman said that members had inspected the laboratory and offices and details of the proposed extension and alterations to the building had been shown to them.

The Director stressed that the most essential parts of the scheme were the extension to the Library, the Administrative Block and the Store Room.

After discussion it was agreed that the Director should consult a competent architect and put up a comprehensive scheme with full details of layout and cost of the suggested extensions and improvements to the Laboratory and Office and also of the proposed Club House for consideration by the Board.

(*c*) *The late Dr. R. V. Norris.*—The Chairman gave members the latest information regarding the last days and the passing away of the late Dr. Norris which he had received from South Africa.

(*d*) *Conference.*—The Chairman said that the Director wished to make arrangements for the next T.R.I. Conference which was due to be held in 1951, and suggested that as the previous conference was held in Kandy it should be held at Radella or Nuwara Eliya.

After some discussion it was agreed that the Director should make the necessary arrangements to hold the Conference in Nuwara Eliya early next year, i.e., 1951.

(*Note.*—The Director now considers it desirable to hold the conference towards the end of November, 1950).

Before concluding the meeting the Chairman expressed his appreciation of the excellent attendance and the spirit of loyalty and co-operation shown by all members.

Mr. R. Singleton Salmon on behalf of all members of the Board thanked the Director and the senior staff for the arrangements made for their accommodation and the hospitality extended to them.

The meeting ended with a vote of thanks to the Chair.

J. Lamb,
Secretary.

Tea Research Institute of Ceylon,
St. Coombs, Talawakelle, October 14, 1950.

Coconut Research Scheme (Ceylon)

BOARD OF MANAGEMENT

DRAFT MINUTES OF THE 111th MEETING OF THE BOARD OF MANAGEMENT, COCONUT RESEARCH SCHEME, HELD AT 10 A.M. ON SATURDAY, OCTOBER 14, 1950, IN THE BOARD ROOM OF THE PLANTERS' ASSOCIATION, 113, STEUART PLACE, COLPETTY.

Mr. C. A. M. de Silva in welcoming the new Chairman on behalf of the Board wished him success in his new appointment, and promised the co-operation of the Members.

The Chairman in expressing his thanks for the sentiments expressed informed the Board that the policy he would follow in all matters connected with the Board's business, as Chairman, would be to place the facts before the Board, and allow the Board to make the decision.

1. CORRESPONDENCE

(*a*) A letter from Mr. W. A. de Silva, M.P., regarding the coir industry in his constituency and the connected correspondence were tabled. The Board agreed with the Director that the inquiry should be addressed to the Department of Industries.

(*b*) *Marginal Lands.*—The recommendation of the Director regarding marginal coconut lands of the North-Western Province, which had been circulated were tabled and was approved by the Board subject to the following amendments:

(i) That the terms of reference should extend to all marginal coconut-growing areas.

(ii) That the Technical Committee should be composed only of the Senior Staff Officers of the Institute, with power to co-opt officers from other Government departments and that it could summon as witnesses any person who is connected in any way with the coconut industry.

(iii) The Committee should submit an interim report within a month from the date of its first meeting.

2. FINANCE

(*a*) The Chairman reported that although the House of Parliament had *approved* the revision of the cess to five times its present rate, it will become effective only when passed by the Senate.

The Treasury Representative informed the Board that although the previous decision was to increase the cess by eight times, the Government was influenced by the L.C.P.A's recommendation and the lack of unanimity of the industry regarding the exact rate of increase of the cess.

(*b*) It was reported that the Planting Officer on the recommendation of the A.F.O. (Chilaw) had recommended the free distribution to Rural Development Societies of the Sinhalese booklet which the Board had decided previously to sell at 50 cents per copy.

The Board authorized the distribution of the booklet at half price, i.e., 25 cents per copy, to Rural Development Societies and Co-operative Societies.

3. STAFF

(*a*) *The Commonwealth Technical Co-operation Scheme*—

(i) *Study Leave.*—A letter from the previous Chairman (Mr. D. Rhind) informing the Board that he had asked the Commonwealth Technical Co-operation Scheme for training facilities for Mr. Nathanael and Mr. Liyanage and for the services of a Plant Physiological Chemist was tabled. The Chairman had taken this action without prior sanction of the Board due to lack of time.

(ii) The Director informed the Board that Mr. D. V. Liyanage, Acting Botanist, in terms of the Board's decision has obtained a place at Manchester University to follow a course of studies in Genetics, and it will be necessary for Mr. Liyanage to be in Manchester in early January, 1951.

(*b*) *Temporary Clerks.*—A letter from the Deputy Secretary to the Treasury giving a list of the Temporary Clerks in Government Service who had been successful in an examination held by the Director of Education was tabled and the Board approved the principle of employing these Clerks when vacancies occur.

(*c*) *Appointments.*—The Board ratified the following appointments on two years probation.

(i) Mr. C. Ambrose as Research Assistant to the Botanist as from September 1, 1950.

(ii) Mr. T. S. Balakrishnamurthi as Research Assistant to the Chemist as from December 1, 1950.

4. ANY OTHER BUSINESS

(*a*) *Student Training Circular.*—It was decided that the students who undergo the course of training at the Coconut Research Scheme should be given a certificate at the discretion of the Director.

Date of the next meeting was fixed for November 7, 1950, at Bandirippuwa Estate at 10 a.m.

On a motion by Mr. C. A. M. de Silva, it was unanimously approved that the Board's appreciation of the work done by the previous Chairman, Mr. D. Rhind, to the Scheme and his untiring efforts to place the Scheme on a sound financial footing which has at last been achieved by the revision of the cess to five times its present rate be placed on record. He said that the late Chairman was impartial and gave everybody a hearing and it was the wish of the Board that success should attend all his future undertakings.

It was decided that a copy of this resolution be sent to Mr. D. Rhind for his information.

The meeting terminated at 12.35 p.m. with a vote of thanks to the Chair.

By order,

S. C. Kahawita,
Secretary-Accountant.

Rubber Research Scheme (Ceylon)

MINUTES OF THE 101ST MEETING OF THE BOARD OF THE RUBBER RESEARCH SCHEME, HELD AT THE PLANTERS' ASSOCIATION HEADQUARTERS, COLOMBO, AT 10 A.M. ON THURSDAY, JULY 27, 1950

Present.—Mr. F. H. Griffith, M.P., in the Chair, Senator C. Wijesinghe, Mr. Francis Amarasuriya, Mr. J. L. D. Peiris, Mr. D. Rhind, O.B.E., Mr. R. J. Hartley, Major Montague Jayewickreme, M.P., Mr. A. G. Ranasinha, C.M.G., C.B.E. (Deputy Secretary to the Treasury); Mr. F. A. Obeyesekera, and the Director, Dr. E. Phillis.

The Board agreed to the transfer of Nivitigalakele Estate to the Tea Research Institute subject to Government approval. This transfer will take place in stages and blocks will be handed over to the Tea Research Institute as the Scheme's interest in the rubber on them ceases. The transfer is expected to cover a period of not more than 15 years.

The Board approved of general plans in connection with the possible introduction of specification grading of rubber, as recommended by the International Study Group. They also discussed trends in the type of export rubber, and in view of the probability of development in concentrated latex, the Director was instructed to pay particular attention to schemes whereby smallholders could participate in this development.

The policy of the Scheme in aiding smallholders was discussed. The general principle was laid down that the Scheme should not assist smallholders either by grants or by loans, these being the functions of other Government departments. The Director gave a resumè of the ways in which the Scheme is trying to benefit the smallholder.

Lists of applicants for the posts of Chemist and Agronomist were studied. It was decided to accept the recommendations of the London Advisory Committee, and the Director was instructed to offer appointments on this basis.

The Director was nominated as the Board's official delegate to the forthcoming conference of the United Planters of Southern India.

E. Phillis,
Director.

Research Laboratories, Dartonfield,
Agalawata, August 17, 1950.

Rubber Research Scheme (Ceylon)

MINUTES OF THE 102ND MEETING OF THE RUBBER RESEARCH BOARD, HELD AT THE PLANTERS' ASSOCIATION HEADQUARTERS, COLOMBO, AT 2.30 P.M. ON THURSDAY, SEPTEMBER 28, 1950

Present.—Mr. F. H. Griffith, M.P., in the Chair; Mr. A. G. Ranasingha, C.M.G., C.B.E. (Deputy Secretary to the Treasury); Mr. Francis Amarasuriya; Dr. A. W. R. Joachim (Acting Director of Agriculture); Mr. J. L. D. Peiris; Mr. R. J. Hartley; Senator C. Wijesinghe; and Dr. E. Phillis, Director, Rubber Research Scheme).

1. MINUTES

(*a*) *Confirmation.*—Draft minutes of the meeting held on July 27, 1950, which had been circulated to members, were signed by the Chairman after members had signified their assent.

(*b*) *Matters arising from the minutes*—

(1) *Scientific Conference in South India.*—The Director gave a brief account of his visit and it was noted that a report had been circulated to members.

2. BOARD

The Chairman reported that Mr. R. J. Hartley had resigned and that Mr. L. S. Boys had been nominated in his place with effect from October 2, 1950.

3. DECISIONS BY CIRCULATION OF PAPERS

Import of planting material from South America.—The Chairman reported that members had agreed to the proposal that the Director should open negotiations for joining in the Malayan attempt to get fresh planting material from South America.

4. EXPERIMENTAL COMMITTEE

Recommendations made at meetings of July 15 and September 23, 1950—

(*a*) *Estate Superintendent.*—It was reported that Mr. G. W. D. Barnet had accepted appointment on the terms offered and that he was expected to assume duties in January, 1951.

(*b*) *Work on outside estates.*—The recommendation that more experimental work be undertaken on outside estates was approved.

(*c*) *Rubber Conference.*—Agreed that a Rubber Conference be held in the near future.

5. REPORTS AND ACCOUNTS

(*a*) Statement of Receipts and Payments for the 2nd quarter, 1950 was approved.

(*b*) Estate Accounts for April, May and June, 1950 were tabled.

6. STAFF

(*a*) *Chemist and Agronomist.*—Reported that the posts of Chemist and Agronomist had been accepted by Dr. E. J. Risdon and Mr. D. H. Constable, respectively.

(*b*) *Junior Staff.*—Changes in junior staff were reported.

7. PRODUCTION AND MARKETING OF SPECIFIED RUBBER

The Director reported that he had recently discussed this matter with the Colombo Rubber Traders' Association and considered that there would be no great obstacle to the preparation of blended rubber in Ceylon.

8. LONDON ADVISORY COMMITTEE

Minutes of a meeting of the Committee held on July 7, 1950, were tabled.

9. PUBLICATIONS

The Annual Report for 1949 was tabled.

The meeting terminated with a vote of thanks to the Chair.

C. D. DE FONSEKA,
Secretary-Accountant.

Dartonfield,
Agalawatta, October 24, 1950.

SUMMARY OF OUTBREAKS OF SCHEDULED ANIMAL DISEASES WITHIN THE DOMINION OF CEYLON MONTH ENDING JULY 31, 1950

Province	Disease	Fresh Cases during the month	Total number from the beginning of this calender year to end of July, 1950				Balance ill at end of month
			Diseased	Deaths	shot	Recoveries	
Western Province	Foot-and-mouth	—	67	—	—	67	—
	Rabies	—	1	1	—	—	—
Colombo Municipality	Foot-and-mouth	—	430	—	—	430	—
	Anthrax	—	4	4	—	—	—
	Tuberculosis	—	2	2	—	—	—
	Piroplasmosis	2	6	6	—	—	—
	Mange	8	10	—	—	2	8
	Rabies	6	55	55	—	—	—
Quarantine Station	Anthrax (in sheep and goats)	21	62	62	—	—	—
Northern Province	Rabies	—	8	—	8	—	—
	Anthrax	39	160	160	—	—	—
	Foot-and-mouth	—	985	7	—	978	—
North-Central Province	Foot-and-mouth	228	1355	—	—	130	1225
North-Western Province	Rabies	5	5	1	4	—	—
	Foot-and-mouth	—	44	6	—	38	—
Central Province	Mange (cattle)	19	575	9	—	547	19
	Foot-and-mouth	—	156	1	—	155	—
	Piroplasmosis	—	2	1	—	1	—
	Tuberculosis	—	1	—	1	—	—
Sabaragamuwa Province	Rabies	1	14	5	9	—	—
	Foot-and-mouth	—	15	—	—	15	—
Uva Province	Rabies	—	1		1	—	—
Eastern Province	Rabies	2	3	—	3	—	—
	Surra	—	69	69	—	—	—
	Foot-and-mouth	25	448	57	—	349	42
Southern Province	Foot-and-mouth	—	19	—	—	19	—
	Rabies	—	1	—	1	—	—

T. M. Z. MAHAMOOTH,
Deputy Director (Animal Husbandry)
and Government Veterinary Surgeon.

Peradeniya, August 29, 1950.

SUMMARY OF OUTBREAKS OF SCHEDULED ANIMAL DISEASES WITHIN THE DOMINION OF CEYLON MONTH ENDING AUGUST 31, 1950

Province	Disease	Fresh cases during the month	Total Number from the Beginning of this Calender Year to August 31, 1950				Balance Ill at end of Month
			Diseased	Deaths	Shot	Recoveries	
Western Province	Foot-and-mouth	—	67	—	—	67	—
	Rabies	—	1	1	—	—	—
Colombo Municipality	Foot-and-mouth	—	430	—	—	430	—
	Anthrax	—	4	4	—	—	—
	Tuberculosis	—	2	2	—	—	—
	Piroplasmosis	—	6	6	—	—	—
	Mange	9	19	—	—	10	9
	Rabies	8	63	63	—	—	—
Quarantine Station	Anthrax in (sheep and goats)	19	81	81	—	—	—
Northern Province	Rabies	2	10	—	10	—	—
	Anthrax	8	168	168	—	—	—
	Foot-and-mouth	—	985	7	—	978	—
North-Central Province	Foot-and-mouth	82	1437	—	—	1292	145
North-Western Province	Rabies	—	5	1	4	—	—
	Foot-and-mouth	5	49	6	—	41	2
Central Province	Mange (Cattle)	36	611	9	—	566	36
	Foot-and-mouth	331	487	1	—	155	331
	Piroplasmosis	—	2	1	—	1	—
	Tuberculosis	—	1	—	1	—	—
	Rabies	1	1	—	1	—	—
Sabaragamuwa Province	Rabies	2	16	7	9	—	—
	Foot-and-mouth	—	15	—	—	15	—
Uva Province	Piroplasmosis	1	1	—	—	1	—
	Rabies	—	1	—	1	—	—
Eastern Province	Rabies	—	3	—	3	—	—
	Surra	—	69	69	—	—	—
	Foot-and-mouth	—	448	57	—	380	11
Southern Province	Foot-and-mouth	—	19	—	—	19	—
	Rabies	—	1	—	1	—	—

radeniya, September 29, 1950.

T. M. Z. MAHAMOOTH,
Deputy Director (Animal Husbandry)
and Government Veterinary Surgeon.

SUMMARY OF OUTBREAKS OF SCHEDULED ANIMAL DISEASES WITHIN THE DOMINION OF CEYLON MONTH ENDING SEPTEMBER 30, 1950

Province	Disease	Fresh cases during the month	Total number from the beginning of this calender year to September 30, 1950				Balance ill at end of month
			Diseased	Deaths	Shot	Recoveries	
Western Province	Foot-and-mouth	—	67	—	—	67	—
	Rabies	—	1	1	—	—	—
Colombo Municipality	Foot-and-mouth	—	430	—	—	430	—
	Anthrax	—	4	4	—	—	—
	Tuberculosis	—	2	2	—	—	—
	Piroplasmosis	—	6	6	—	—	—
	Mange	5	24	—	—	19	5
	Rabies	4	67	67	—	—	—
Quarantine Station	Anthrax (in sheep and goats)	4	85	85	—	—	—
Northern Province	Rabies	1	11	—	11	—	—
	Anthrax	—	168	168	—	—	—
	Foot-and-mouth	—	985	7	—	978	—
North-Central Province	Foot-and-mouth	—	1,437	—	—	1,437	—
North-Western Province	Rabies	1	6	2	4	—	—
	Foot-and-mouth	26	75	6	—	69	—
Central Province	Mange (cattle)	41	652	9	—	602	41
	Foot-and-mouth	60	547	1	—	486	60
	Piroplasmosis	1	3	1	—	2	—
	Tuberculosis	—	1	—	1	—	—
	Rabies	—	1	—	1	—	—
Sabaragamuwa Province	Rabies	—	16	7	9	—	—
	Foot-and-mouth	—	15	—	—	15	—
Uva Province	Piroplasmosis	—	1	—	—	1	—
	Rabies	—	1	—	1	—	—
Eastern Province	Rabies	1	4	—	4	—	—
	Surra	—	69	69	—	—	—
	Foot-and-mouth	85	533	67	—	418	48
Southern Province	Foot-and-mouth	—	19	—	—	19	—
	Rabies	—	1	—	1	—	—

Peradeniya, October 27, 1950.

T. M. Z. MAHAMOOTH,
Deputy Director (Animal Husbandry),
and Government Veterinary Surgeon.

METEOROLOGICAL REPORT, AUGUST, 1950

STATION	TEMPERATURE				HUMIDITY		Amount of Cloud	RAINFALL		
	Mean Maximum	Offset	Mean Minimum	Offset	Day	Night (from Minimum)		Amount	No. of Rainy Days	Offset
	°	°	°	°	%	%		Ins.		Ins.
Anuradhapura	91·6	+0·4	76·0	+0·5	60	86	6·8	0·64	6	— 0·98
Badulla	85·2	—0·8	64·7	+0·2	66	94	5·8	3·81	11	+ 0·61
Batticaloa	88·8	—1·7	75·9	—0·7	72	86	6·8	8·31	15	+ 6·36
Colombo	84·9	+0·1	77·5	+0·6	78	84	7·2	3·65	14	— 0·38
Diyatalawa	77·0	—0·9	61·4	—0·4	69	84	6·1	4·70	12	+ 1·58
Galle	84·9	+2·3	76·4	—0·3	85	88	6·5	8·30	22	+ 2·16
Hakgala	—	—	—	—	—	—	—	—	—	—
Hambantota	87·3	+0·5	76·6	+0·5	74	86	6·8	1·23	9	— 0·21
Jaffna	85·1	—0·9	78·6	—0·7	79	86	6·4	0·86	3	— 0·25
Kandy	83·1	—0·1	69·9	—0·2	77	90	7·4	6·59	25	+ 0·86
Kurunegala	85·5	—1·3	74·7	—0·1	74	84	6·8	3·47	21	— 0·15
Ratmalana	84·3	—	76·9	—	76	84	7·0	4·98	11	+ 1·50
Mannar	86·4	—1·0	78·2	—0·4	78	86	7·4	0·36	2	— 0·30
Nuwara Eliya	65·7	—0·4	54·8	+0·5	88	94	7·8	4·31	25	— 3·20
Puttalam	86·5	+0·2	77·7	—0·2	74	84	7·0	1·32	5	+ 0·67
Ratnapura	85·4	—1·2	74·1	—0·2	81	93	7·0	10·09	27	— 1·30
Talawakele	70·6	—0·3	59·3	+0·1	87	91	7·6	7·18	27	— 2·90
Trincomalee	92·2	+0·2	77·2	—0·1	65	82	6·8	6·03	8	+ 2·42

WEATHER SUMMARY—AUGUST, 1950

The rainfall in August did not deviate much from average. The larger deficits were of the order of 2 to 5 inches, and occurred among and around the central hills, the highest being 4.43 inches at Labookelle Estate, 4.34 inches at Nanu Oya and 4.19 inches at Polgahawela. The larger excesses (also mainly of the order of 2 to 5 inches) were found in the neighbourhood of Galle, Batticaloa and Nawalapitiya. The highest excesses were 11.02 inches at Kellie Estate, 10.11 inches at Maha Oya, 8.95 inches at Kokkawita Group, 8.63 inches at Diwulana and 8.24 inches at Mylambavelly Estate.

Rainfall was heaviest on the south-western slopes of the hills where several stations recorded monthly totals over 20 inches, including 30.92 inches at Kenilworth Estate, 29.13 inches at Norton Bridge, 28.23 inches at Blackwater Estate and 28.07 inches at Kellie Estate. Monthly totals in the south-western low-country were of the order of 5 inches. There was some increased rainfall in the neighbourhood of Trincomalee and Batticaloa where the monthly aggregates ranged from 5 to 10 inches. Least rain was experienced in the north, north-west and south-east where the totals were below 2 inches.

There were no daily falls over 5 inches in August.

Weather was mainly of the monsoonal type, the resulting rain being generally light or moderate. Heavier rain was, however, experienced on the south-western slopes of the hills on a few days, chiefly the 13th and 20th. Evening thunderstorms which were in evidence on the east side from about the 16th to 23rd were responsible for the excess of rain registered in the neighbourhood of Trincomalee and Batticaloa. Severe squally weather was experienced along the west coast on the 28th.

A hailstorm of some severity was reported from Bandarawela on the 18th.

Day temperatures were, on the whole, slightly below normal, while night temperatures were about normal. The highest recorded temperature in the shade was 97.8° at Trincomalee on the 13th, while the lowest temperature for a low-country station was 71.4° at Ratnapura on the 30th. The lowest temperature for the whole Island was 51.3° at Nuwara Eliya on the 12th.

Day humidity was about 75 per cent. in the south-west and below 70 per cent. on the east side. Night humidity was about 85 per cent. Cloud amounts were above normal. The wind was generally of average strength, the prevailing direction being south-westerly.

D. T. E. DASSANAYAKE,
Director.

METEOROLOGICAL REPORT, SEPTEMBER, 1950

STATION	TEMPERATURE				HUMIDITY		Amount of Cloud	RAINFALL		
	Mean Maximum	Offset	Mean Minimum	Offset	Day	Night (from Minimum)		Amount	No. of Rainy Days	Offset
	°	°	°	°	%	%		Ins.		Ins.
Anuradhapura	92·9	+1·3	76·0	+0·9	58	84	6·2	1·58	4	— 2·18
Badulla	84·9	—0·8	64·6	+0·4	64	94	5·2	1·64	9	— 2·85
Batticaloa	90·5	+0·8	76·5	+0·3	64	79	6·4	0·15	3	— 2·24
Colombo	84·6	—0·7	77·0	+0·4	79	86	7·0	4·72	20	— 2·12
Diyatalawa	77·0	—0·8	61·7	+0·7	66	84	5·8	1·49	11	— 2·92
Galle	82·0	—0·9	75·8	—1·0	81	86	5·8	10·51	21	+ 1·70
Hakgala	—	—	—	—	—	—	—	—	—	—
Hambantota	87·5	+0·9	76·4	+0·3	73	84	6·3	1·29	10	— 1·47
Jaffna	86·7	+0·6	79·6	+0·4	79	87	6·0	3·43	4	+ 0·90
Kandy	82·0	—2·3	69·1	—0·2	78	90	6·6	10·00	18	+ 3·56
Kurunegala	85·5	—2·1	74·4	+0·1	72	84	6·2	4·76	16	— 0·79
Ratmalana	84·5	—	76·2	—	77	84	6·8	5·83	16	— 1·01
Mannar	87·6	—0·1	79·0	+0·2	75	82	6·6	0·03	1	— 1·21
Nuwara Eliya	64·5	—2·3	53·4	+0·2	88	94	6·3	10·85	17	+ 2·61
Puttalam	86·4	—0·4	78·5	+0·6	74	82	6·4	0·17	2	— 1·41
Ratnapura	84·9	—2·2	73·4	—0·2	78	93	7·1	14·57	23	+ 0·05
Talawakele	69·3	—2·9	58·4	+0·1	86	91	6·8	12·36	21	+ 2·61
Trincomalee	92·7	+0·7	77·6	+0·6	63	80	6·6	2·25	8	— 1·18

WEATHER SUMMARY—SEPTEMBER, 1950

Rainfall in September was appreciably above normal on the south-western slopes of the hills and neighbourhood, and generally below normal elsewhere. Excesses over 10 inches were recorded at several stations, the largest being 19.39 inches at Norton Bridge, 18.91 inches at Kellie Estate, 16.57 inches at Hatton Police Station, 16.46 inches at Abergeldie Group and 15.01 inches at Luccombe Estate. Deficits were generally small and included 5.80 inches at Conical Hill, 4.71 inches at Udugama, 4.70 inches at Horawupatana and 4.43 inches at Haputale.

Heaviest rain was experienced on the south-western slopes of the hills where a number of stations recorded totals over 25 inches, Norton Bridge receiving as much as 42.80 inches. Other noteworthy totals were 38.03 inches at Kellie Estate, 33.54 inches at Abergeldie Group, 31.83 inches at Luccombe Estate and 31.71 inches at Watawala. Outside the south-western slopes of the hills there was a gradual decrease in rainfall, the monthly totals in the south-western low-country being of the order of 5 inches. In the north and east the rainfall was mainly below 2 inches, a few stations in the north-west quarter and in Batticaloa District receiving no rain at all.

There were only two daily falls over 5 inches in September, 5.44 inches at Norton Bridge on the 12th and 5.04 inches at Luccombe Estate on the 13th.

Active monsoon conditions that prevailed during the first fortnight were responsible for most of the rain experienced in September. The spell of dry weather that set in thereafter lasted till about the 24th. The Evening thunderstorms were, however, in evidence from about the 20th and resulted in occassional rain in the north and east.

Temperatures were, on the whole, below normal by day and slightly above normal by night. The highest recorded temperature in the shade was 96.8° at Anuradhapura on the 29th, while the lowest temperature for a low-country station was 71.2° at Jaffna on the 25th. The lowest temperature for the whole Island was 45.9° at Nuwara Eliya on the 22nd.

Day humidity was about 75 per cent. in the south-west and 65 per cent. on the east side. Night humidity ranged from 80 to 90 per cent. Skies were more cloudy than usual. The wind strength was slightly above average, the prevailing direction being south-westerly.

D. T. E. DASSANAYAKE,
Director.

METEOROLOGICAL REPORT, OCTOBER, 1950

STATION	TEMPERATURE				HUMIDITY		Amount of Cloud	RAINFALL		
	Mean Maximum	Offset	Mean Minimum	Offset	Day	Night (from Minimum)		Amount	No. of Rainy Days	Offset
	°	°	°	°	%	%		Ins.		Ins.
Agalawatta	—	—	—	—	—	—	—	—	—	—
Anuradhapura	88·0	—1·0	73·2	—0·3	71	90	6·0	4·59	12	— 5·13
Badulla	81·6	—1·2	64·6	—0·9	71	94	6·4	5·90	17	— 2·99
Batticaloa	86·6	—0·4	74·9	—0·4	73	88	6·3	3·09	10	— 4·10
Colombo	84·0	—1·0	73·6	—1·2	80	93	6·5	16·28	21	+ 2·57
Diyatalawa	74·6	—1·6	60·2	—0·4	76	91	6·1	7·28	16	— 1·90
Galle	81·6	—1·5	74·0	—1·5	81	88	6·1	21·34	23	+ 9·29
Hakgala	—	—	—	—	—	—	—	—	—	—
Hambantota	86·2	0	74.7	—0·6	77	88	6·8	3·48	19	— 1·28
Jaffna	84·8	—1·0	76·7	—0·9	79	88	6·1	11·00	14	+ 1·80
Kandy	82·9	—1·4	67·1	—1·4	77	95	6·1	6·24	22	— 4·30
Kurunegala	85·3	—2·1	72·3	—0·9	75	88	6·0	10·13	20	— 4·73
Mannar	85·4	—1·6	76·6	—0·6	79	86	6·6	6·80	12	+ 0·22
Nuwara Eliya	65·0	—2·7	52·7	+0·8	86	94	6·5	6·40	23	— 3·36
Puttalam	85·1	—1·2	75·0	—0·6	77	90	6·4	4·87	17	— 2·56
Ratmalana	83·8	—	73·3	—	79	98	6·8	15·68	25	+ 2·48
Ratnapura	85·6	—1·5	71·9	—0·9	79	93	6·8	23·39	19	+ 5·38
Talawakele	71·3	—2·1	57·0	—0·7	80	91	5·8	5·28	22	— 4·78
Trincomalee	87·7	—0·1	75·0	—0·6	74	86	6·7	5·37	13	— 4·18

WEATHER SUMMARY—OCTOBER, 1950

Rainfall in October was well above average in the south-western low-country, while it was appreciably below normal elsewhere over the Island. The larger deficits, of the order of 5 to 10 inches, occurred chiefly among and around the central hills, the highest being 12.23 inches at Hendon Estate, 12.02 inches at Madugoda, 11.87 inches at St. Martin's (Upper) Estate, and 10.94 inches each at Alupolla Group and Detenagalla Estate. The biggest excesses were 15.06 inches at Kanana Estate, 11.97 inches at Labuduwa, 10.73 inches at Yakkatuwa and 10.50 inches at Hiyare.

Heaviest rain was experienced in the south-western low and mid-country where a number of stations recorded totals over 20 inches, the highest being 33.18 inches at Kanana Estate, 32.22 inches at Kumbaduwa Estate, 31.65 inches at Gona Penigala Estate, 29.01 inches at Sirikandura Estate and 28.89 inches at Gikiyanakande Estate. Elsewhere over the Island the rainfall was mainly of the order of 5 to 10 inches.

There were only five daily falls of five inches or over in October, the highest being 6.82 inches at Alexandra Estate on the 14th.

During the first week, the rainfall was mainly confined to the south-west quarter, with moderately heavy falls on the 5th. From the 9th onwards it became fairly widespread and continued so till about the 23rd. During the last four days of the month weather conditions were generally bright. Evening thunder was in evidence in the north and east during the second half of the month, particularly from the 21st to 26th.

Light ground frost was reported from Kandapola on the 30th.

Temperatures were below normal, particularly by day. The highest recorded temperature in the shade was 93.8° at Anuradhapura on the 2nd, while the lowest temperature for a low-country station was 67.2° at Ratnapura on the 28th. The lowest temperature for the whole Island was 37.6° at Nuwara Eliya on the 31st.

Day humidity ranged from 70 to 80 per cent. while night humidity was about 90 per cent. Cloud amounts were above normal. Wind strength was about average, the direction being variable.

D. T. E. DASSANAYAKE,
Director.